



AIRFIX

magazine

for modellers

AUGUST 1980 45p



In this issue: The Hawker Fury story, 'Munich Crisis' Fury, Workshop, plus many more features in your 'new look' magazine.



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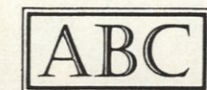
for modellers

Volume 21 No 12

August 1980

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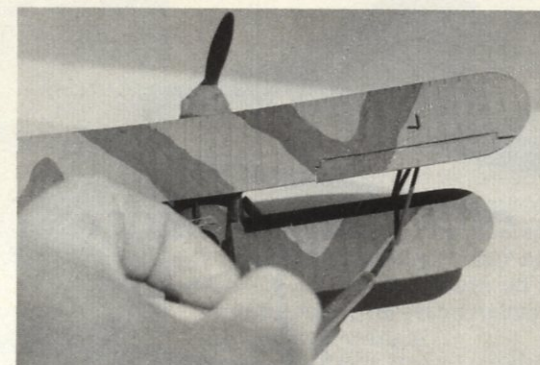
EDITORIAL OFFICES,
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ISSN 0002-2705



One of the modelling projects in this issue is a simple conversion and detailing job for the new 1:48 scale Airfix Hawker Fury. What are we doing here? Answer: measuring up for the rigging wires - see how to do it on page 615.

On the cover
The Mirage F.1CZ is one of the more recent Airfix kits. This is the dramatic Airfix painting which decorates the box top. On page 606 Peter Guiver takes a close look at the real aircraft.

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London WC2A 1JB.
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Airfix Magazine is published for the proprietors, Airfix Products Limited, by Kristall Publications Ltd on the last Friday of each month. Annual subscription rate £8.00 (USA \$17.50) from Wells, Gardner, Darton and Co. Ltd. Second Class, postage at New York Post Office, NY.

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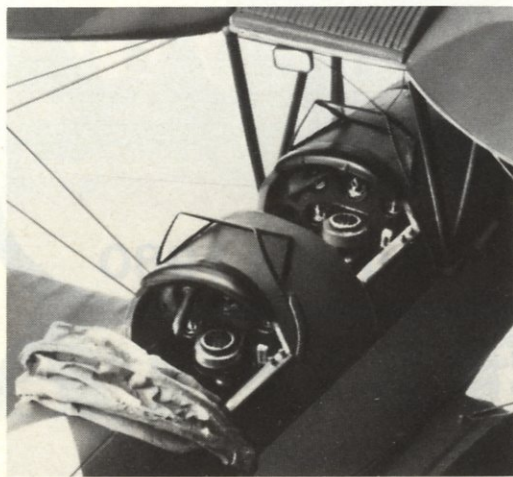
Mailbox 634
Letters to the Editor, from our readers

Circulation Department
Wells, Gardner, Darton
and Co. Ltd
Faygate, Horsham,
Sussex.

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When Fred Turner first took the controls of a Tiger Moth over 10 years ago, he underwent an experience he has never forgotten.

Now he has recaptured part of that experience by building a perfect and truly authentic replica of the aircraft which evokes memories of Amy Johnson and the days of real flying when you could 'hear the wind in the wires'.



A serious modeller for over 40 years, Fred is a member of IPMS Thames Valley and among his accomplishments, he came 1st in 'D' Class and was commended and highly commended several times in the UK National Championships last December.

Fred believes that "MATCHBOX" have produced the first good plastic model of the Tiger Moth which, coming from a modeller of his calibre, is no mean compliment.

The kit parts and decals provide the constructor with a choice of five subjects: an RAF trainer of No. 6E F.T.S. Sywell; a float or wheeled version of G-AIVW; a wheeled or snow-ski version of a DH82C of R.C.A.F.

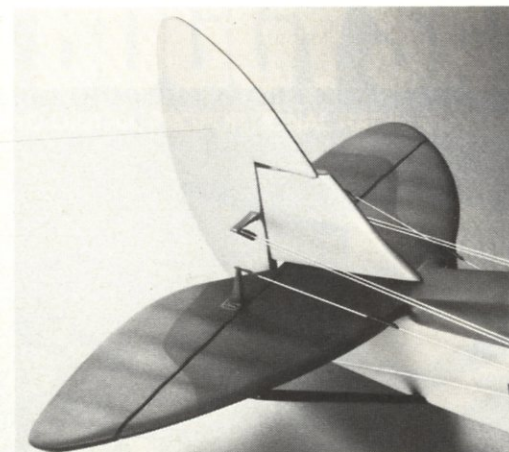
A legend

The emergence of the Tiger Moth 49 years ago between the wars was to say the least timely. For this aircraft fulfilled the desperate need of the RAF for a cheap, versatile and highly manoeuvrable trainer.

In fact, the Tiger Moth made an important contribution to winning the war - by helping to train many who became the few.

Even today, the Tiger Moth is still regarded by many pilots as the finest trainer in the country.

The Tiger Moth has distinguished itself all over the world in many and various roles - including those of crop sprayer, taxi,



glider tug, bomber, advertising sky writer, parachutist carrier and dazzling aerobatic performer. It has even crossed the channel upside down and more recently earned the distinction of being the first aircraft to fly to France with its passenger standing outside on the petrol tank.

In 14 years of production, nearly nine thousand Tiger Moths were made. It endeared itself to many thousands of pilots who can recall, as though it were yesterday, their first thrilling moments of flight at the controls of this great little aircraft, which has become a legend in its own life time.

Painstaking

Fred spent many hours at the RAF Museum and drew on such references as Profile No. 132, MAP Plan No. 2681 and The Tiger Moth Story by Alan Bramson and Neville Birch; and in his passion for detailed authenticity made adaptations and additions to the model.

For example, on early Tiger Moths, pilots had to exert constant pressure on the left rudder pedal to maintain straight and level flight.

This was due to the slip stream striking the right side of the rudder, causing yaw to the right. To compensate for this, most later Tigers had the rudder spring loaded to the left, easing the strain on the pilot's foot. Fred therefore reset the rudder of his model at the necessary angle.

He built from scratch, compasses, elevator bias control quadrants, tension springs, throttle controls, fuel shut-off level and many other features, including the moulding of the front seat and fitting in a sloping bulkhead.

He even added ignition harness/wires, fuel oil pipes (from his daughters old guitar

string), control linkages, and an extended exhaust pipe using stretched sprue. Fred also made a blind flying hood from wire hoops and tissue paper, painted canvas green.

For the rigging he used 2½ lb monofilament (Woolworth's fishing line) threaded in and out of pre-drilled holes in the wings.

He used silver stretched sprue for elevator and rudder control wires, and simulated tension adjusters by applying white PVA glue and painting grey/black.

He meticulously rubbed the tyre parts of the wheel with wet and dry to achieve a rubber-like appearance and drilled out holes in the fuselage bulkheads for hand holds and seat harness.

In all, Fred reckons he spent several weeks researching and between 150 and 200 hours constructing this model. It was a long



painstaking job and he enjoyed every minute.

But then it was a labour of love.

We at "MATCHBOX" were more than pleased when he said: "This kit will provide the novice with a good replica of 'Tiggie' whilst giving the dedicated expert the where-withall to construct a winner."

"MATCHBOX" are to be congratulated on producing this kit which should have a worldwide appeal."

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The contents are listed above. 720 pages, half a million words of text, more than 1,500 illustrations — a unique and invaluable book for anyone with a present-day interest in the past.

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Editor's Notebook

We don't go in too much for anniversaries, but we can't overlook the fact that just twenty years ago this month very first *Airfix Magazine* went on sale, then an innovation at a time when you could count the non-railway modelling magazines in Britain on the fingers of one hand - *Aeromodeller*, *Model Maker*, *Meccano Magazine*, etc. etc. Maybe you would need the odd extra long finger if you counted some fringe interest publications! It was, in relative terms, the early days of plastic kits. In 1960, with the exception of the pre-war Frog Penguins, the modern type of plastic kit had been on sale for little over five years. We still remembered Gowland & Gowland as a trade name, there were Merit racing cars and 1:48 scale aircraft kits; Aurora, Airfix, Revell, and Monogram were all well established and fast building up ranges of kits in what was already a competitive market. But there were huge gaps by today's standards. The only AFV kits we can recall at the time were a few by Aurora (Centurion, Patton, Stalin, etc.) in 1:48 scale. Plastic kits for figures in 54mm scale were still far off in the future, and even some of the Airfix kits we now think of as 'golden oldies' - like the Defiant and Sherman tank - were still a year or more into the future, just twinkles in the eyes of Airfix designers.

Airfix Magazine was a good idea then, as it must be today, whereby the kit purchaser had a forum for ideas and background information, most of it related to models even if this was not stated in so many words. Aside from *Meccano Magazine*, which dealt only with Meccano products in modelling terms, *Airfix Magazine* was unique in being funded by a major manufacturer, but in addition to covering Airfix products it has also looked at everybody else's with an independent editorial staff who are not themselves Airfix employees. So we've always been able to take a wide view of the modelling hobby and we hope we've succeeded in pointing quite a lot of novice modellers in the right direction.

It won't have escaped your notice so far that this issue looks a lot different from anything you've seen before with the name *Airfix Magazine* on it! But we thought we'd start our third decade of publication with a new look for the 1980s and, indeed, some new approaches to the hobby for the current generation of hobbyists. After all there are a lot of readers today who weren't even born when the first issue appeared, and quite a lot of others (the Assistant Editor among them!) who were far too young to appreciate the first issue when it went on sale. For the first three years the magazine was produced to a small format (8½ins x 5½ins) and the amount of modelling in it was actually quite small; the emphasis, in fact, was on model trains in those early days with aircraft next. At the time, as now, the model railway hobby was on the crest of a wave. Today it is such a substantial hobby in its own right that we have hived off all railway subjects into a separate Airfix-owned magazine *Model Trains* (see it at your hobby shop or newsagent) produced by the same editorial team. Military modelling articles started appearing in 1963, as did warship modelling. Now we run all these main interests, with aircraft predominating as that has always been the major interest in the plastic kit hobby. In 1963 the size went up to 9½ins x 7½ins, and in 1976 it went to the present A4 size. For a short period in 1964 there was also a Norwegian edition (would you believe?) at the time when the Airfix distributor for Scandinavia was extra keen.

So what of the immediate future? Well this issue should act as a curtain raiser. Ralph Laughton has joined our team to look after design and layout. This means much more flexibility of contents - and covers, too, for we will no longer have a rigid pattern, only the 'banner' staying constant. So look for the name in future rather than a constant colour or pattern. We'll be continuing our background information articles, such as the

continued on page 633



Changing faces of the magazine over 20 years: Top to Bottom: The original small format.... then the next size up.... here's the rare Norwegian edition.... up to A4 size.... and then the final style of the past year.

The Workhorse.

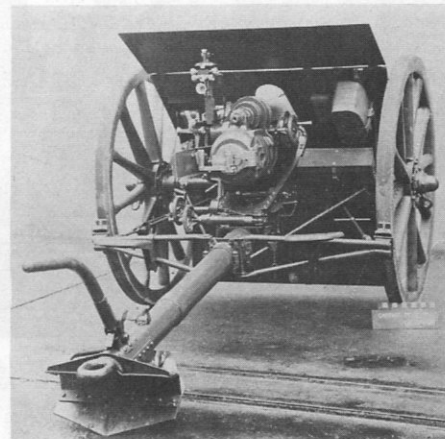
The 18 pdr. - Warrior of two world wars.

TERRY GANDER

The field gun that was to become the 18pdr owed its origins to the Second Boer War. That distant and muddled conflict emphatically pushed home the point to the denizens of the Horse Guards and Woolwich, that the state of the British Army's field artillery had become more than a trifle parlous. The early days of the Boer War showed that the Boers could out-range and outshoot anything the Artillery could put into the field. The only immediate short-term solution was for the British Artillery to order (secretly) 108 Erhardt 15pdr guns directly from Germany, but once these guns were delivered, the Boer War had settled down into a prolonged and nasty guerilla campaign with little artillery content. But the experience gained with the 15pdr Erhardt guns gave many pointers as to what the Royal Artillery wanted for their field pieces. The Erhardt guns were sound enough but insufficiently robust for the prolonged rigours of British Army service, and almost as soon as they were delivered the search for a long term replacement was under way.

The task for this long term programme was given to General Sir Henry Brackenbury, and so thorough and far-ranging were his initial investigations that he ordered that all the field artillery in service with the British Army would have to be replaced within a three year period - in fact it was he who started the initial programme by ordering the Erhardt 15pdrs. Brackenbury issued fairly stringent requirements to British industry and among his required equipments were guns for the field and horse batteries. In time the two guns emerged as pieces firing 13½lb or 18½lb projectiles, but of the three main producers (Vickers, the Royal Ordnance Factories and Armstrongs) there was no overall product that emerged as a clear choice. The answer was, in both cases, to amalgamate the designs and see what the end results looked like. Thus, with both the 13½pdr and the 18½pdr guns, the barrels were from Armstrong, the cradle and some of the carriage came from Vickers, and the bulk of the carriage was a design from the Royal Arsenal at Woolwich. For their day, both designs were thoroughly modern and sound, but

almost as soon as the results were issued, voices were raised as to whether or not two almost similar guns were what the Army needed - the difference between a 13½lb and a 18½lb projectile hardly seemed to be worth all the extra efforts involved. During the early 1900s, there was a great deal of discussion and debate as to the merits and demerits of both types of gun, but in the end the contest was settled by a political decision made by the Prime Minister of the day, Arthur Balfour. He produced a compromise. As the initial call was for guns for both the horse and field batteries, the smaller gun would go to the Royal Horse Artillery and the larger gun to the Royal Artillery field batteries.



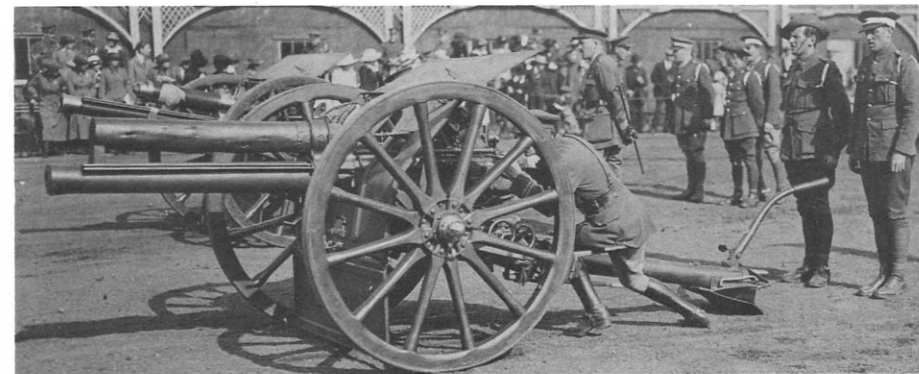
The 18 pdr in its basic 1904 state.

Thus the 18pdr gun became the 18 pdr QF Gun, and it was accepted for service on June 30 1904. Soon after, other empire and Commonwealth governments followed suit and the 18pdr became a Commonwealth gun. The Indian Army also decided to adopt the 18pdr to the extent of setting up their own production line - by 1914, 99 18pdrs had been made. In the United Kingdom the 18pdr was soon in production and by the outbreak of the Great War in 1914, some 1126 equipments had been produced. Of these, 280 had been sent to Australia, New Zealand, South Africa and Canada (where the first arrived during 1906).

The first 18pdr has wire-wound barrels with a calibre of 83.8mm. As early as 1906 the barrel design was

changed to the more modern convention of inserting the inner tube liner into the gun sleeve - this enabled worn barrels to be relatively easily re-lined, a fact that was to be of great advantage between 1914 and 1918. The wire-wound barrels were the Mark 1 and the later barrels the Mark 2 (or Mark II at the time - this article will use the later arabic where possible). To add to the variety of early Marks, worn Mark 1 barrels were converted to mark 2 standard, when they became the Mark 1*. The gun used a hydro-spring recoil mechanism and a single-action interrupted-screw breech. The carriage used a single pole trail which, on the move, was hitched to a limber carrying 24 rounds of ammunition. The gun and limber were towed by six or eight horses, while more horse teams towed extra ammunition waggons. As with the gun, the carriage underwent some modifications (there was even a Mark 1**), but the main change came after experience in action. Once the Great War had settled into a prolonged artillery action, it soon became apparent that the recuperator springs used were incapable of standing up to the strains of long term warfare and many broke in action. During 1915, a new recuperator design with a hydro-pneumatic system was gradually evolved for retro-fitting to all guns in the field and on the production lines. On the lines a lengthened cradle slide was introduced for greater stability when fired and these two innovations then changed the carriage to the Mark 2.

Once that was done the 18pdr proved to be a sturdy and reliable workhorse and by the end of 1918, 8,393 had been produced in the United Kingdom. Even this prodigious total was insufficient to meet the demands of an ever-growing Allied Army and orders for more were placed in the United States during 1916. There the Bethlehem Steel Company had turned out 851 equipments together with limbers and ammunition waggons by the time the United States entered the war in 1917. Thus the unprepared American War economy had an already-equipped artillery production line in being and they converted it to their own use, but as they had already opted for a



Gun drill on, of all places, Lords Cricket Ground, 1918.

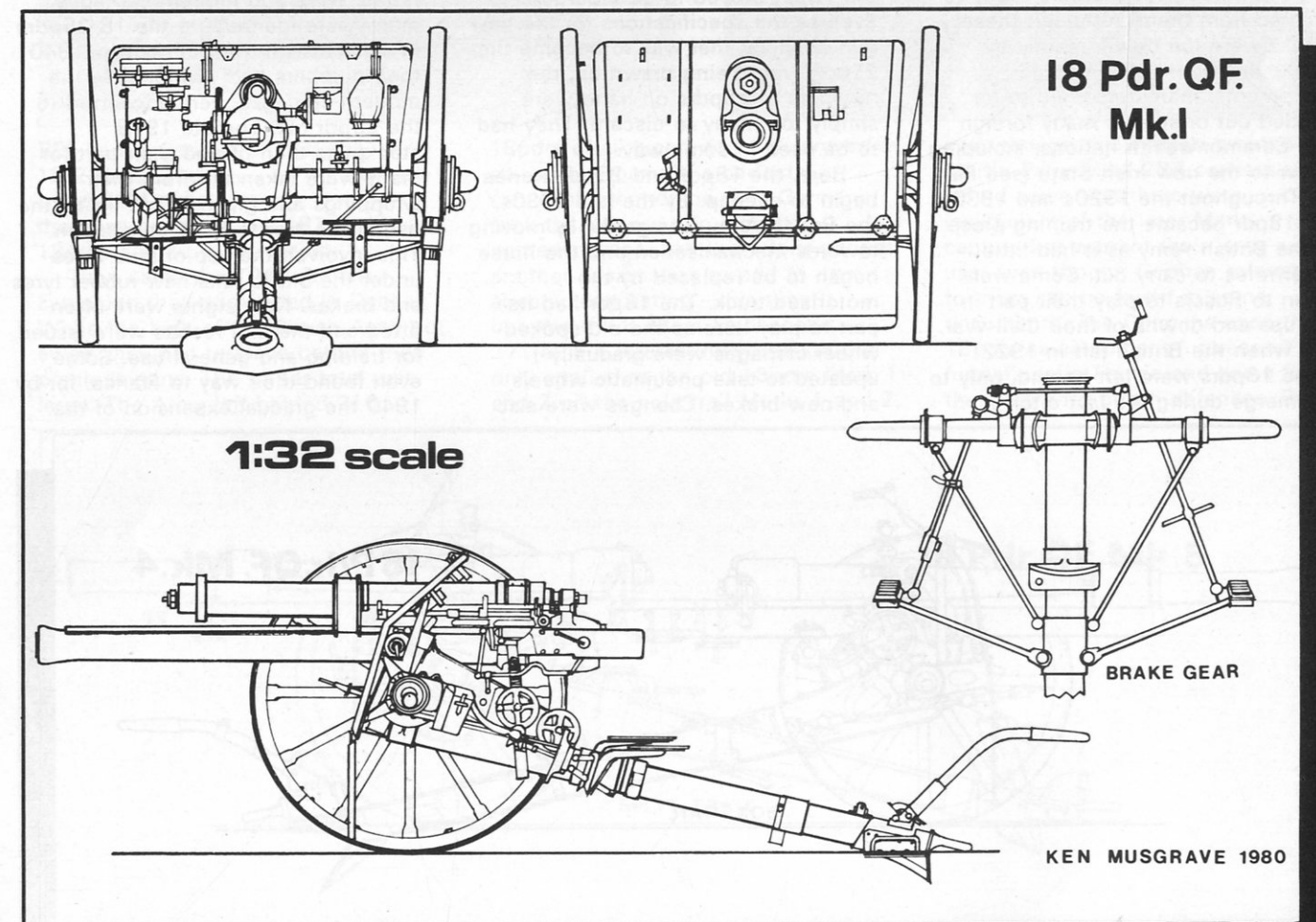
little or no penetrating effect and the resultant detonation often did little more than remove the top soil and leave a small shallow depression. When a shell fell into mud, its effects were often minimal other than removing more soil. The overall result was the strange and eerie 'desert' landscapes of 1917 and 1918. After 1918 a team of accountants totted up that well over 100,000,000 rounds were fired by 18pdrs between 1914 and 1918.

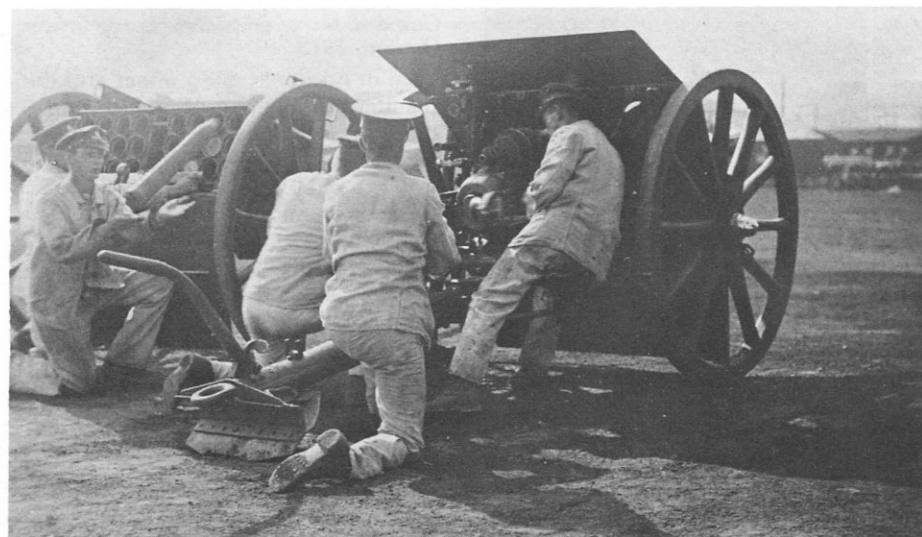
By 1918 it had been decided that the range of the 18pdr was insufficient as its maximum of 5966 metres. Trials had begun as early as 1916 on a way to improve the gun's performance but it was soon found that there was little enough to be done with the gun itself. A new Mark 3 gun was designed but it did not get into production. The next step was the Mark 4 which was little changed from the Mark 2 ballistically but it had a new Ashbury single-motion breech that proved easier to work in action. The main changes came with the carriage. The old pole trail was easy to use with horses but it had the definite disadvantage that it limited the available elevation, and thus the range. Allied to the new Mark 4 gun was a new carriage, the Mark 3, which had a box trail allowing an

standard calibre of 75mm they produced their Model 1917 guns in that calibre. By the time the war had ended they had turned out 724 75mm/18pdrs out of a grand total of 2,686 ordered. We shall return to these guns later in the article.

As mentioned above the 18pdr became the workhorse of the British and Allied armies. They formed the major part of the heavy artillery barrages that became the central feature of the Great War campaigns and to them and their ilk must be laid the responsibility for the strange appearance of the Western Front terrain. The field batteries of all the combatant armies were usually allotted the task of barbed wire cutting and destroying the enemy's front line field fortifications and trenches. During the early months of the war, the 18pdrs were unable to

perform this task since virtually all of their ammunition issue was shrapnel. Produced with the man-killing potential of this projectile in mind, shrapnel soon showed itself to be completely unsuited to the conditions of the Western Front. The shrapnel bullets were unable to make any impression on even the most lightly-protected fortifications and they could not cut barbed wire either. To add to the Artillery's troubles, by 1915 the supply of even shrapnel had dwindled to a trickle. The result was the 'Shell Scandal' that brought Lloyd George into political power with his Ministry of Munitions, so by 1916 the 18pdrs were firing little else but HE. Even with this projectile the effectiveness of the 18pdrs was often less than satisfactory for they fired in a relatively flat trajectory. When the projectile hit the ground it often had





elevation increase to 30° (the Mark 2 was limited to 16°). This increased the range from the earlier 5,966 metres to just over 8,500 metres. The recoil system was also updated (and moved to under the barrel) and the end result was an almost entirely new gun. Only a few got to France before the war ended, but after 1918 the new design became the standard gun of the Royal Artillery field batteries.

After 1918, the 18pdr remained firmly emplaced as the Royal Artillery's main field gun. In November 1918, the numbers in the field and on the stocks was 3,144 and there were over 8,000,000 rounds held ready to be fired from them. Although these stocks were run down, mainly by stockpiling some of the earlier equipments, many remained to be handed out or sold to many foreign and Commonwealth nations, including a few to the new Irish State (see Part 2). Throughout the 1920s and 1930s the 18pdr became the training piece of the British Army as it had little other roles to carry out. Some were taken to Russia to play their part in the ups and downs of their Civil War, and when the British left in 1922 some 18pdrs were left behind, only to re-emerge during the last ditch

defence measures taken at Moscow and Leningrad in 1941 and 1942.

In some ways, the 18pdr became a development burden on the limited defence funds the Army had during the 1920s and 1930s. With so many perfectly-serviceable guns to hand the Gunners had virtually no hope of any new equipment, but the 18pdr often became the tool involved in the few experiments that were possible - for instance the Birch Gun was an 18pdr Mark 5. But by the end of the 1930s, things began to change when the growth of the new German State cast its ominous war shadows. But even the 18pdr proved to be a burden. Even as the specifications for the new gun-howitzer that was to become the 25pdr, were being drawn up, the numbers of 18pdrs on hand were simply too many to discard. They had to be used in some way.

Here, the 18pdr and 25pdr stories begin to overlap. By the late 1930s, the British Army was gradually moving towards mechanisation and the horse began to be replaced by the motorised truck. The 18pdr had its part to play here as the old spoked-wheel carriages were gradually updated to take pneumatic wheels and new brakes. Changes were also

made to produce a new carriage, the Mark 5 which had increased elevation (as had an interim, the Mark 4) but most important was the new split trail which gave a great increase in traverse from the previous 8° to 50°. But many gunners were less than happy with the split trail innovation and instead took to requesting a 360° turntable onto which the gun and carriage could be hoisted. This idea was not new as it has its (British) origins in the extemporised Hogg and Paul Platform of 1918, knocked up from a plank platform and a spare gun wheel. With such a device the gun could be easily and quickly traversed for anti-tank and mobile warfare. By the 1930s, the device had become a circular steel ring carried on or under the carriage trail, and it was trials with these platforms as opposed to the radical split trails that determined the final shape of the 25pdr. But before the 25pdr could get into service, new barrels with the 25pdr calibre of 87.6mm were put onto 18pdr carriages. The carriages involved were the Marks 3, 4 and 5 and the guns were the 25pdr Mark 1. Enough were so modified to produce sufficient for the little BEF contingent to take France in 1939.

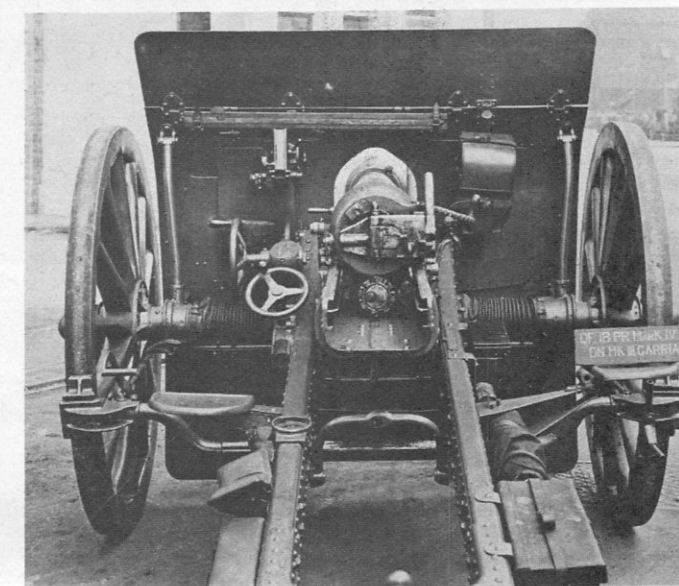
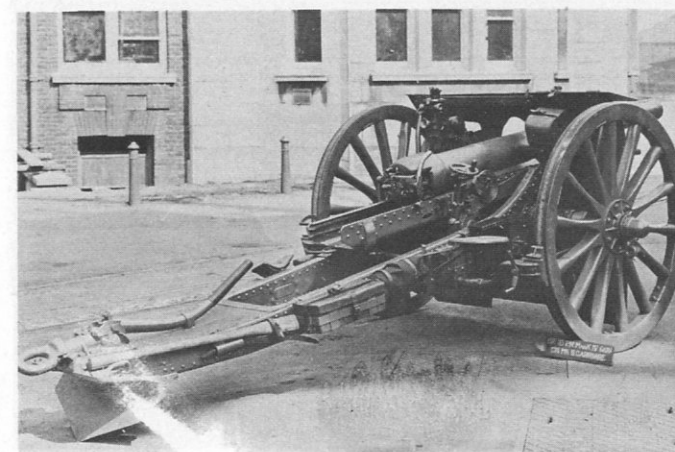
However, many 18pdrs were not so converted and by the time war came again in 1939 there were many 18pdrs still in service. With their new rubber tyres and modern carriages, many were identical to the 18/25pdrs in service with the BEF, but by 1940 their numbers had dwindled as the modern carriages were converted to the 25pdr ole. The old 1918 stockpiles then played their part for many were taken out from their wrappings and given a face lift by the use of the Martin-Parry conversion. This involved the use of stub axles under the old to take new rubber tyres and brakes. New sights were often fitted and the end results were issued for training and general use. Some even found their way to France, for by 1940 the gradual expansion of the

GUN DATA

Gun Mark	Mark 1 and 2	Mark 4	Mark 4A	Mark 4B	M1917
Calibre (mm)	83.8	83.8	83.8	83.8	83.8
Total Length (mm)	2463	2463	2457	2463	2240
Length of bore (mm)	2454	2355.5	2449.5	2355.5	2133
Length of rifling (mm)	2037.9	2037.9	2031.9	2037.9	—
Weight of gun (kg)	462.2	435.9	—	435.9	451

Top Left: A gun crew in 'fatigues' on gun drill with an 18 pdr on its Mark 1 carriage.

Below and Right: Qf 18 pdr MkIV gun on MkIII carriage showing all equipment normally stowed on the trail.

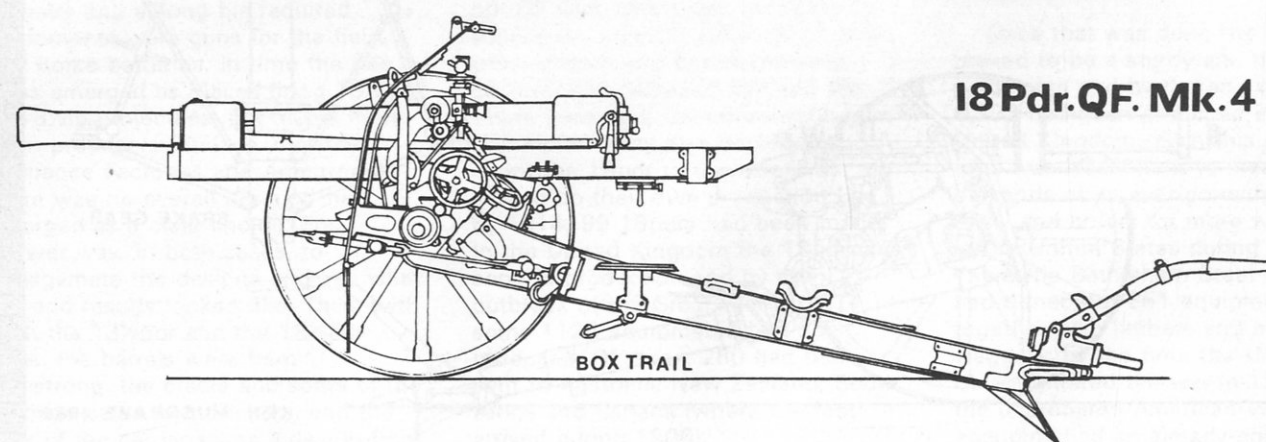


BEF had outstripped the supply of 18/25pdrs. Thus by 1940 there were some field regiments equipped as they had once been in 1918 with 18pdrs and 4.5in howitzers.

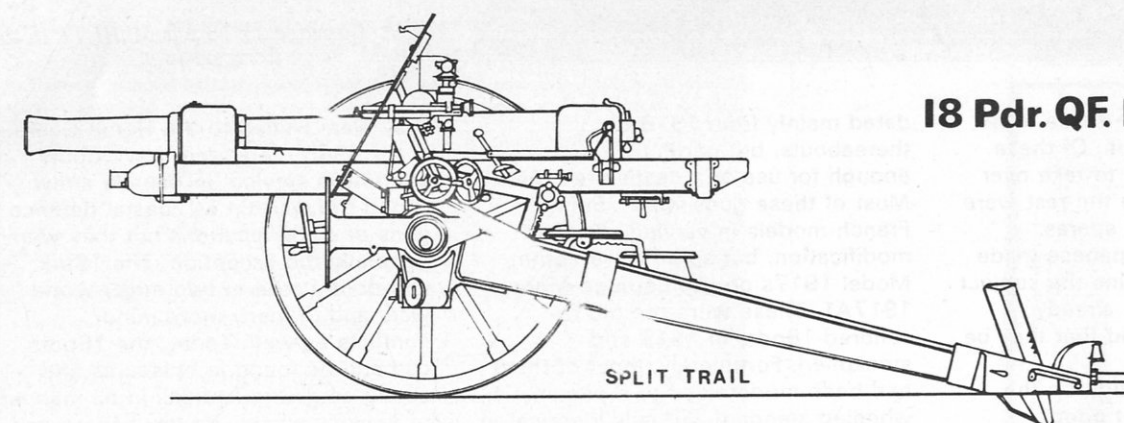
Then came the 1940 French campaign that culminated in Dunkirk. While the bulk of the British Army got away, they had to leave behind their precious guns. The 18pdr total was large. The Army left behind 216

18pdrs of all types, some destroyed or spiked but many in a perfectly serviceable condition. The Germans took their prizes into almost immediate use, and the 18pdr got yet another designation to add to its already long listing - this time it became the 8.38cm Feldkanone 271(e), but interestingly enough this only applied to the old 18pdrs Mark 1 and 2 on the pole trail Marks 1 and 2,

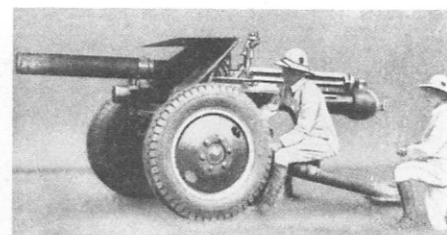
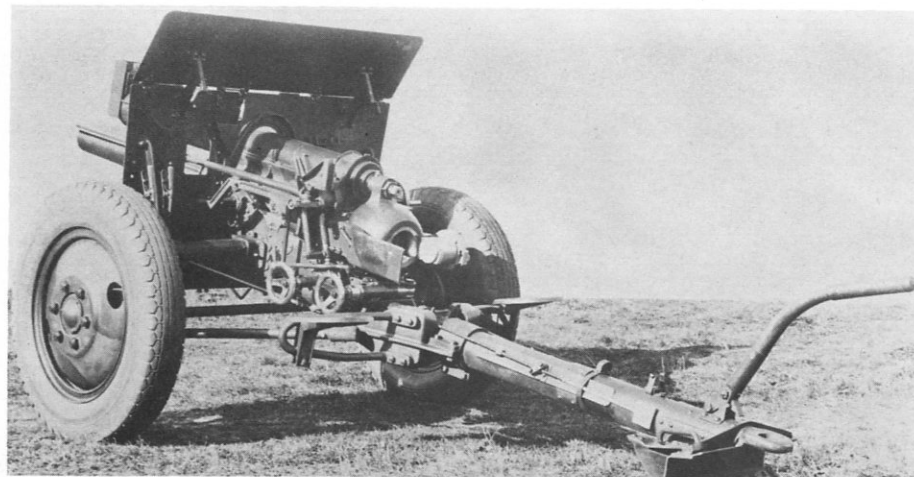
even though this version had the Martin-Parry Mark 2PA conversion. It would seem that there were insufficient of the later Marks captured to warrant their large scale use, even though German references to them can be found in some documents. The Germans used their 18pdrs as equipment for second-line formations in France and some found their way into beach defences. By



18 Pdr. QF. Mk. 4



18 Pdr. QF. Mk. 5



Above: When captured in 1940 the 75mm/18 pdr was designated by the Germans 8.38 an Feldkanone 271 (e) (eng 18 pdr 04). This retouched German official photo shows Italian artilleryman.

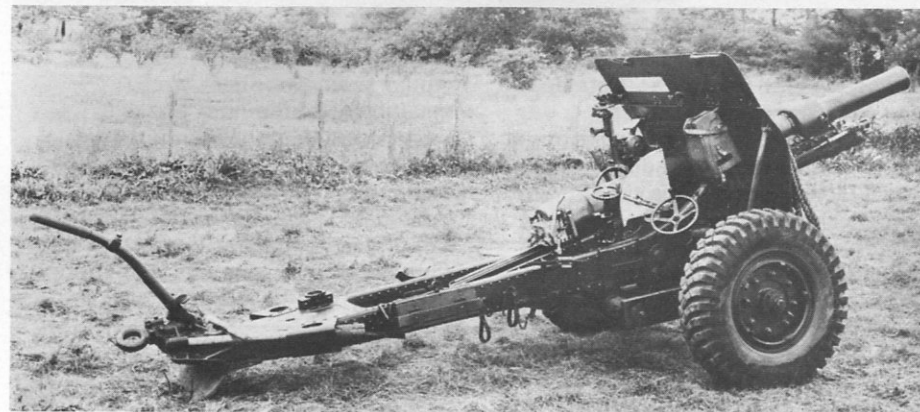
Right: Carriage 75mm/18 pdr MkIPA in firing position and seen from the left rear.

1943 the bulk of them had been replaced and scrapped.

In the United Kingdom, the 18pdr now became a major item of equipment and during 1940 all manner of 18pdrs were rushed back into service. Old guns and carriages straight from the stockpiles were placed back into service for training, beach defence and even as front line equipment for some overseas units. The 18pdrs took the field once more during the early Desert campaigns and as late as 1942 were standard equipment for gunner units in Iraq and Syria. In 1942, some were issued to anti-tank batteries in Burma (along with captured 149mm Italian howitzers), while even more were on hand in Singapore when that fortress was captured in early 1942. A Japanese report mentions that a total of 43 18pdrs were captured then, 15 of them 'motorised' and 28 with their



Above: A 'Martin-Parry' conversion in use for training in Southern England, 1914. An 18 pdr in Scotland during a training exercise 1940 or 1941. The tractor is a Guy Quad-Ant.



Left: Carriage 25/18 pdr MkIII TP in the firing position.

original 1904 carriages - these latter were used by local militia. Of these the Japanese were able to take over or repair about 21 while the rest were scrapped or reduced for spares. Exactly what use the Japanese made of their prizes still remains the subject for research - the report already mentioned recommended that they be used for local use.

But in 1940 the position on the British mainland was not good. Invasion seemed imminent and artillery was in short supply. The United States came to the rescue with a supply of old artillery pieces that

dated mainly from 1918 or thereabouts, but perfectly good enough for use at a desperate time. Most of these guns were 75mm French models in varying states of modification, but some were 75mm Model 1917s on the Carriage Model 1917A1. These were the old re-calibrated 18pdrs in 1918 and stockpiled. Fortunately, most of them had been modernised to a pneumatic-wheeled standard, virtually identical to the British Martin-Parry conversion. Thus they could be taken into service almost immediately and they were used for beach defences and gradually

they were issued to the Home Guard.

By 1945 there were few 18pdrs still left in service. In Canada a few lasted the war out as coastal defence guns at some locations but they were generally the exception. The 18pdr had done its bit in two major world wars and in many more minor conflicts as well. Today, the 18pdrs can still be found in museums and acting as gate-guardians in all manner of unlikely places. Its day has passed but it is still remembered as a good gun.

Continued on page 633

GUN AND CARRIAGE DATA

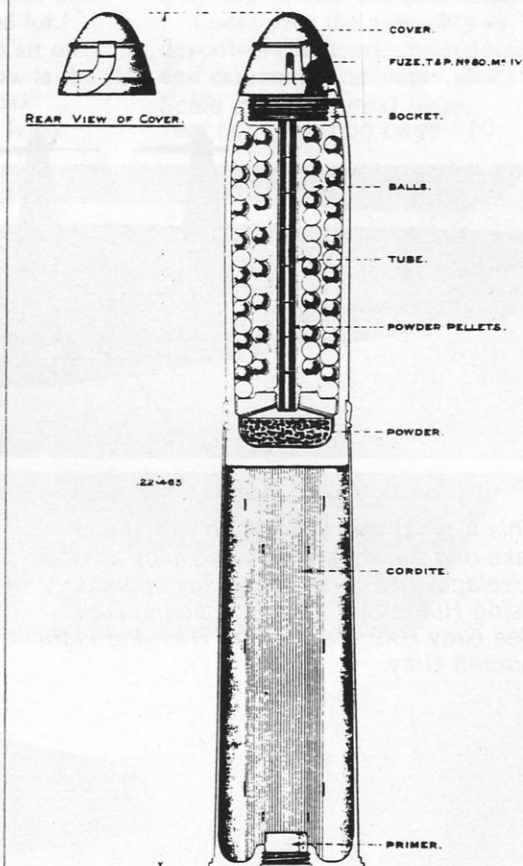
Carriage Mark	Mark 1	Mark 1* 1***, 2	Mark 2R	Mark 2PA	Mark 3T	Mark 4	mark 5	M1917A1
Weight of gun and carriage (kg)	1284.5	1452	1452	1519.5	1600	1600	1651	1651
Height to top of shield, firing (mm)	1651	1651	1702	1499	1600	1600	1600	1651
Length (mm)	4166	4166	4166	4254.5	4623	4623	5054.5	4166
Width (mm)	1905	1905	1905	2057.5	2032	2032	2032	1905
Wheel diameter (mm)	1422	1422	—	990.6	1295	1295	1295	990.6
Elevation	+16°	+16°	+16°	+16°	+30°	+37°30'	+37°30'	+16°
Depression	-5°	-5°	-5°	-5°	-5°	-5°	-4°40'	-5°
Traverse (l & r)	4°	4°	4°	4°	4°	4°	25°	4°
Range (m)	5966	5066	5966	5966	8504	10150	10150	8300

Right: When first issued the 18 pdr fired shrapnel only with virtually no HE issue. Although shrapnel was still issued in 1940 it was by then little used. The number of shrapnel balls changed from mark to mark of shell, from 292 up to 349.

18 pdr Gun Data

Mark 1	Original 1904 wire-wound design
Mark 1*	Mark 1 gun repaired with new A tube
Mark 2	New construction produced during 1906 with renewable A tube
Mark 2*	1915 conversion of 18 pdr gun for anti-aircraft use. Fitted with cartridge retaining catch for use at high elevation angles. Most converted back to normal configuration after 1920.
Mark 3	1917 development model. Not produced for service.
mark 4	1918 production model with Ashbury breech mechanism.
Mark 4A	1935 model with new loose liner replacing the A tube during repair.
Mark 4B	Production Mark 4A.
Mark 5	Version used on Birch Guns. Only small number produced.

CARTRIDGE, Q.F. 18 PR SHRAPNEL, MARK I.



HERCULES C3

Phil Hunt makes the 'big one' - the C3 version of the Hercules is a spectacular addition to any 1:72 scale collection.

During the latter part of 1978 the Ministry of Defence announced its decision to embark on a stretch programme for thirty of the RAF's C1 Hercules fleet. The new aircraft designated Hercules C3 will differ from the C1 variant by having two plugs inserted fore and aft of the wing, totalling some extra 13ft 4ins in length. This will enable the aircraft to carry 40% more freight or increase the number of troops transported from 92 to 128.

The first of these aircraft XV223 was converted by the parent company, Lockheed, ahead of contractual schedule, and the RAF took re-delivery at Lockheed-Georgia Marietta on December 11, 1979, the remaining 29 of these aircraft being converted by Marshalls of Cambridge, utilising the necessary 'plugs' manufactured by Lockheed. When all 30 aircraft are completed

the Royal Air Force will have the equivalent of 10 new standard C1 aircraft without the need for any increased personnel or extra airfield facilities.

The Hercules has always been a firm favourite of mine, and as the relevant information was now at hand regarding the lengths of the 2 fuselage extensions, little encouragement was needed to embark on the conversion to a C3. The basis for the conversion is the Airfix Herk, a little elderly, I know, but still a good kit by today's standards and fairly accurate.

There are two ways of approaching the problem of the fuselage extensions. The easiest and most expensive is to purchase a second kit and use sections from the fuselage to achieve the necessary extensions. The other alternative, and less costly but requiring more skill, is to carve balsa wood plugs and use them as they are, alternatively use the balsa wood extensions as a basis for moulding the plugs from plastic card.

As luck would have it, I was fortunate enough to be given a made up and rather battered Herk which had been used as a 'toy' by a youngster living nearby, so naturally I chose the former method. Whatever method is chosen the end result is large to say the least, and quite impressive.

The instruction sheet enclosed with the Hercules kit released with the latest box art and revised RAF decals (XV305) differs from the original (XV196) by having an increased number of exploded drawings relating to the construction of the model. The part numbers still appear to be the same on both the former and the latter instructions, and any further reference made to the assembly drawings and part numbers is based on the current kit (XV305). I feel this should be mentioned at this stage before construction begins, to avoid any confusion later on, as some shops (in my area at least) still have the original kit on their shelves, although XV305 is more readily available.

Left: A comparison between the original and modified fuselage. Below: The extra length is added to the fuselage aft of the cockpit and forward of the tail plan.

Start the construction by assembling Stages 1 - 7 as per the kit instructions, paying attention to the revised shape of the rear cockpit bulkhead (part 10, see Fig 5). Add any extra detail to the interior of the cockpit as desired. I used an airbrush to spray the whole interior of the fuselage, Sea Grey Medium. Seats and consoles were painted a semi-gloss black, seat cushions were made from plastic card and the seat harnesses were fashioned from painted strips of masking tape.

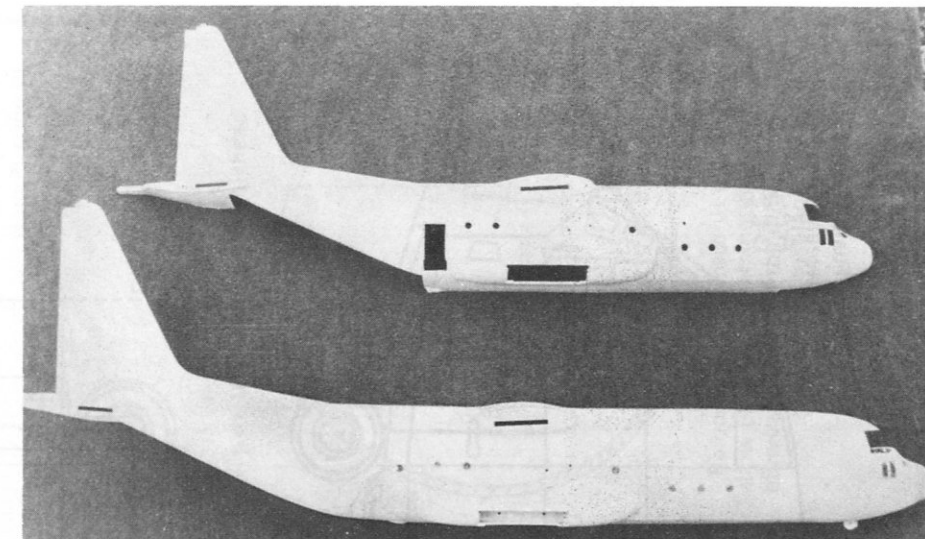
Moving on to Stage 8 (to include part 41, the fuselage floor) I found would complicate matters later on during assembly. As I intended to display the aircraft with the freight doors in the permanently closed position, I omitted this part altogether from the construction. The purist may wish to include the floor but in doing so will have to remember to increase its length by that of the fuselage extensions. As it cannot be seen unless the doors are in the open position from my point of view, it was pointless to include it.

Carry on assembling the model through Stages 9 - 12. On arriving at Stages 13 - 14 I would recommend leaving off the fuel tanks and props until final assembly and painting has been completed.

At this stage, start work on the alterations to the front fuselage which involves making a vertical saw cut right through the entire front fuselage at point A-A as Fig 1. I found the easiest way to tackle this was to stick a 1 inch width strip of masking tape either side of point A-A. This as much as anything acted as a safety precaution should the saw slip whilst carrying out this operation.

So, taking a razor saw, carefully cut the fuselage at point A-A (refer to Fig 1). Using the panel line as a guide, which incidentally comes right where the saw cut has to be made, ensure the cut remains parallel all the way down.

Next turn your attention to the second Hercules fuselage; cement together the two fuselage halves and put aside to dry. Once the halves have dried out, continue the same operation on the second fuselage only this time making your saw cuts on both lines G-G and H-H (see Fig 3). This section will then form the front fuselage extension for the C3. Using plastic card, fashion a number of plastic 'tabs' which are then



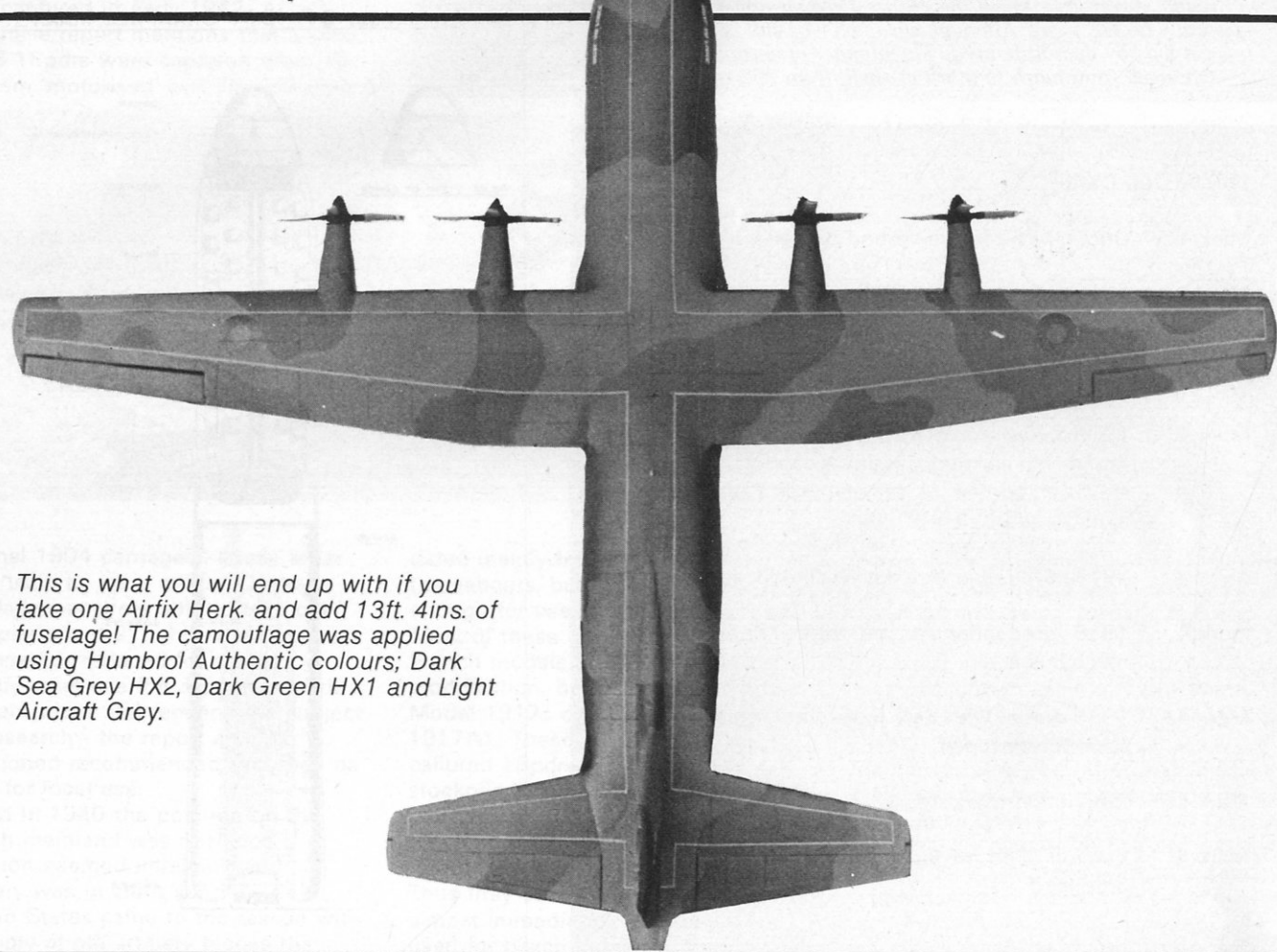
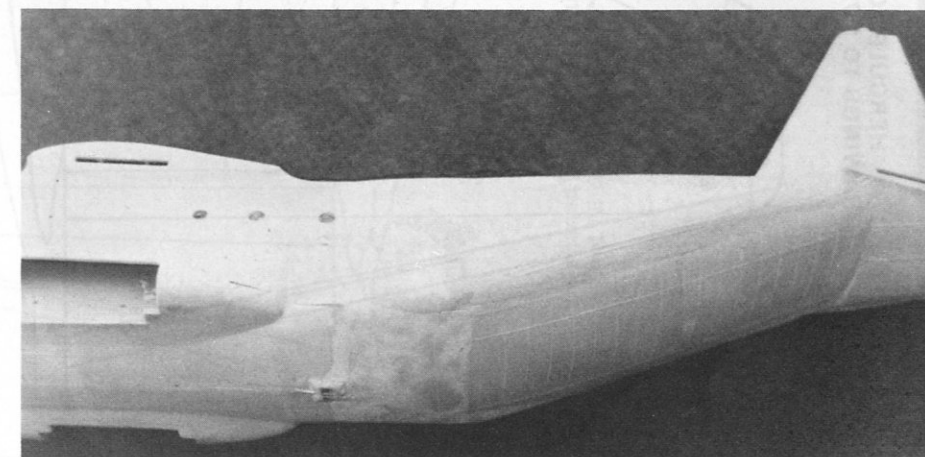
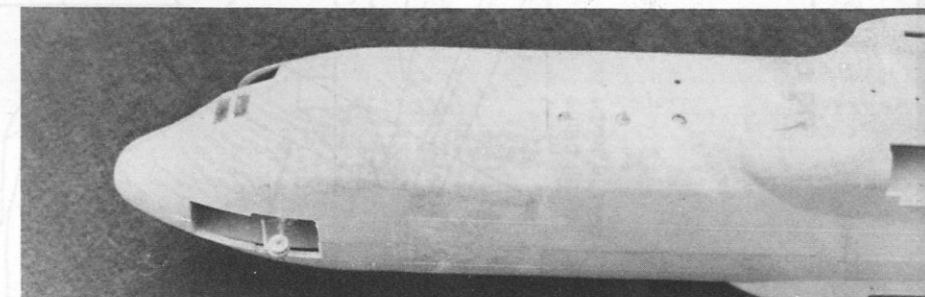
cemented to inside the front fuselage extension, positioned so as to protrude at least 1/2 - 3/8 inch out all the way round. Tabs will also be required to blank off windows in the extension piece and the remaining holes filled from the outside later, as the windows will not be required. When the tabs have thoroughly dried out cement the extension back on to the fuselage at point A-A, ensuring that the extension is cemented parallel to the existing fuselage contours. You should find that the tabs fit neatly between the outside of the rear cockpit bulkhead shape, being revised earlier to allow for the plastic tabs to marry in. I found 'super glue' was the most practical adhesive for the latter operation as a hard and fast joint was called for.

If the model is required to sit on its tricycle undercarriage, now is the time to add the necessary nose weight. My model needed at least

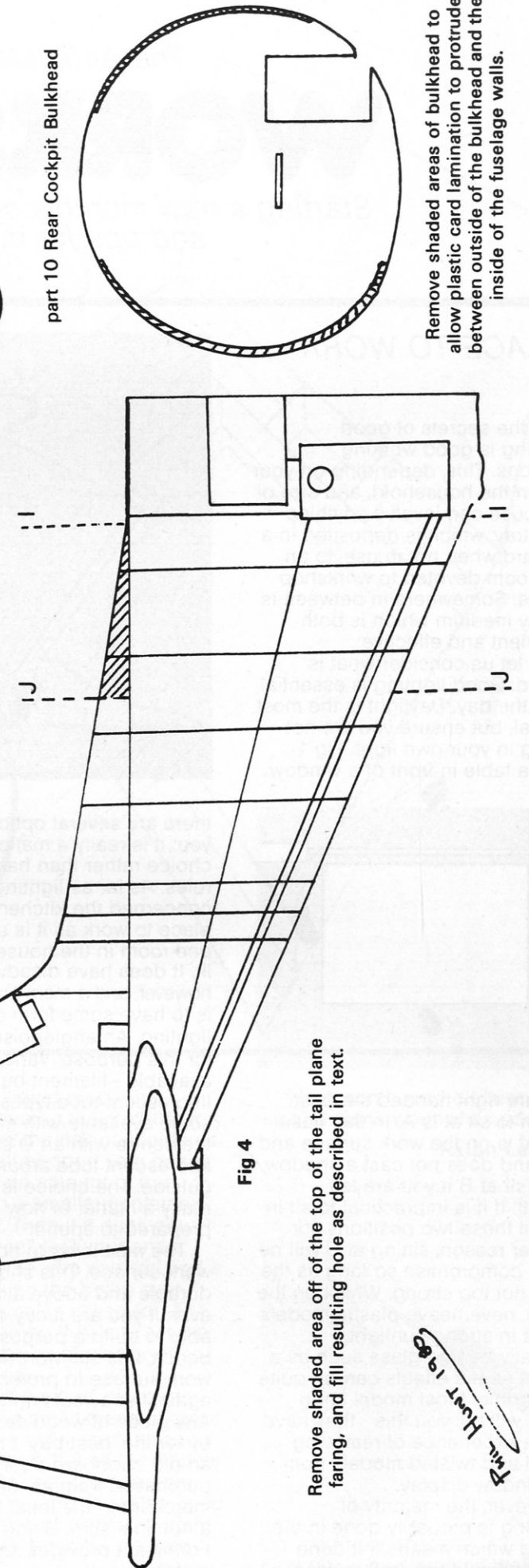
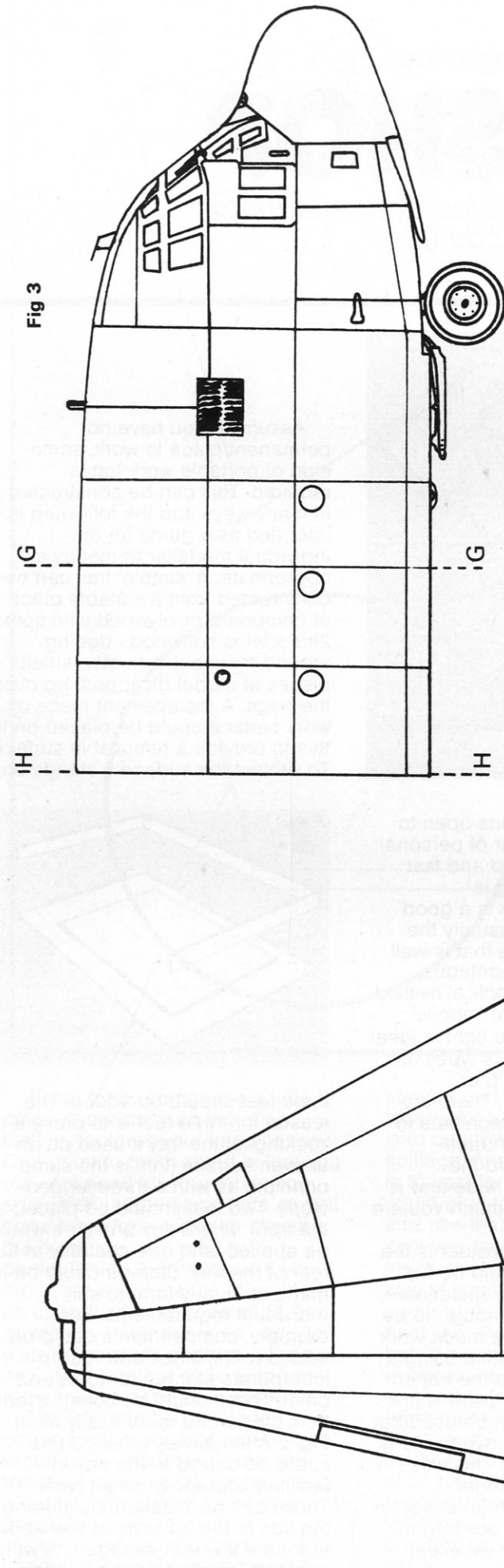
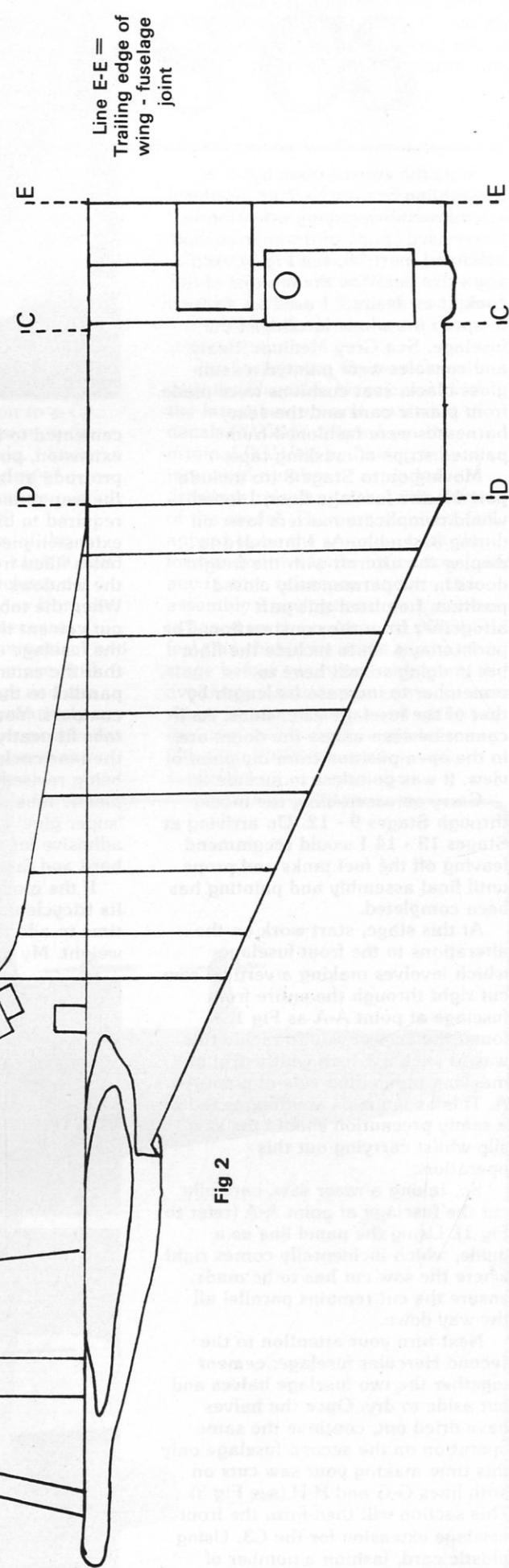
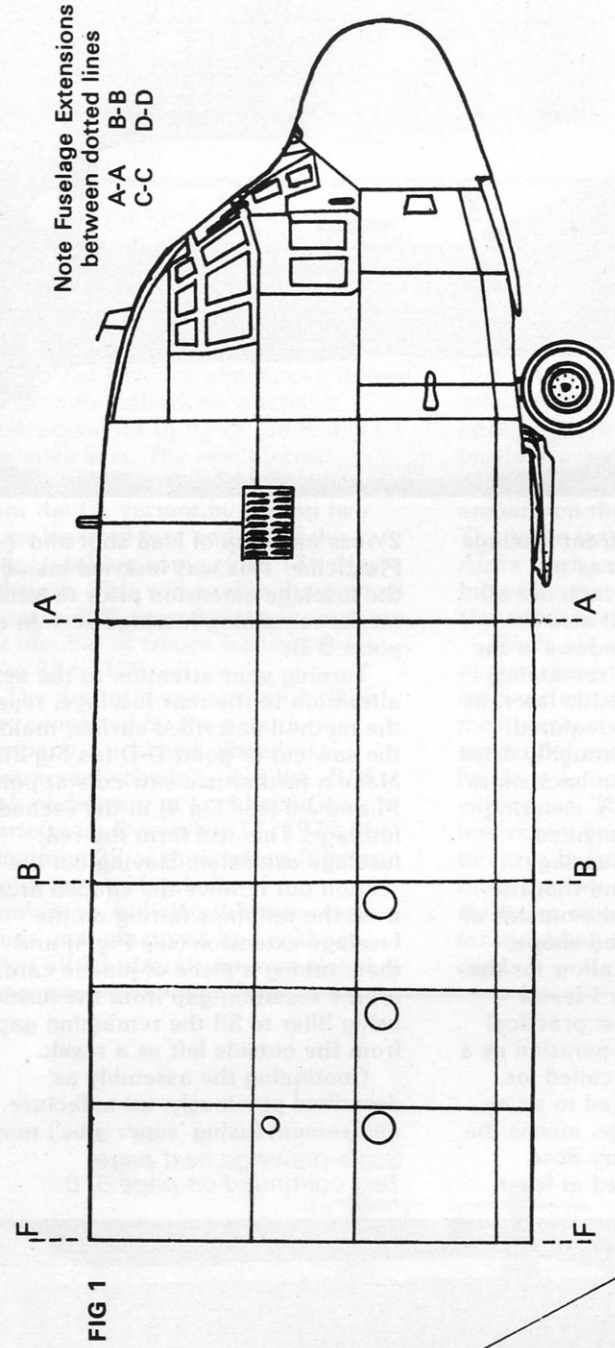
2 1/4ozs made up of lead shot and Plasticine. This was inserted inside the fuselage extension prior to joining on the remaining fuselage section at point B-B.

Turning your attention to the next alteration to the rear fuselage, repeat the method described earlier, making the saw cut at point D-D (as Fig 2). Make a further two saw cuts at points I-I and J-J (see Fig 4) in the second fuselage. This will form the rear fuselage extension. Having cut the section out remove the shaded area from the tailplane fairing on the fuselage extension (see Fig 4) and then, taking a piece of plastic card, fill the resulting gap from the inside, using filler to fill the remaining gap from the outside left as a result.

Continuing the assembly as described previously, manufacture and cement (using 'super glue') more Scale drawings next page, Text continued on page 610



This is what you will end up with if you take one Airfix Herk and add 13ft. 4ins. of fuselage! The camouflage was applied using Humbrol Authentic colours; Dark Sea Grey HX2, Dark Green HX1 and Light Aircraft Grey.



File HUNT 1980

1:72 drawing of Hercules C1 showing where to make the cuts.

Remove shaded areas of bulkhead to allow plastic card lamination to protrude between outside of the bulkhead and the inside of the fuselage walls.

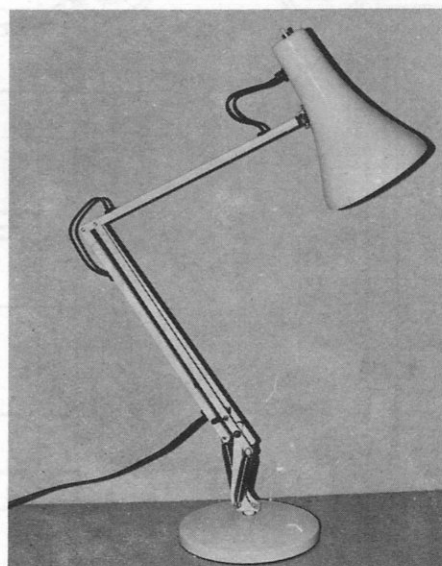
The Airfix Magazine WORKSHOP

Starting a new monthly series of useful hints and tips for modellers.

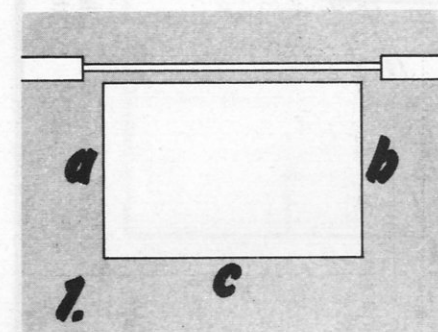
A PLACE TO WORK

One of the secrets of good modelling is good working conditions. This, depending on your status in the household, and size of your house can involve anything from a tray, which is deposited in a cupboard when not in use, to an entire room devoted to workshop facilities. Somewhere in between is a happy medium which is both convenient and effective.

First let us consider what is required. Good lighting is essential during the day. Daylight is the most practical, but ensure you are not working in your own light. Fig 1 shows a table in front of a window.



Assuming you have no permanent place to work, some kind of portable work top is required. This can be constructed in many ways and the following is intended as a guide for the individual modeller to modify as appropriate. A 'simple' tray can be constructed from a suitable piece of chipboard or plywood with some 2ins x 1/2ins softwood edging around three sides to stop small pieces of model disappearing over the edge. A replacement piece of work surface could be placed on this to provide a removable surface. To protect the surface it stands on,

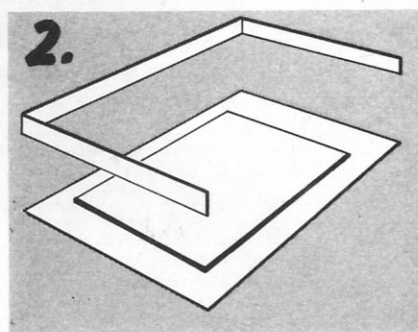


If you are right handed the best position to sit at is A. In this case the light is on the work surface and your hand does not cast a shadow over it (sit at B if you are left handed). If it is impractical to sit in either of these two positions, for whatever reason, sitting at C will be a good compromise so long as the light is not too strong. Whilst on the subject, *never* leave plastic models or parts in strong sunlight, especially behind glass such as a window, as the effects can be quite catastrophic. Most model shop owners will tell you this - they have had the experience of removing warped and twisted models from their window display.

However, the majority of modelling is probably done in the evening which means it is done under artificial light. In this case

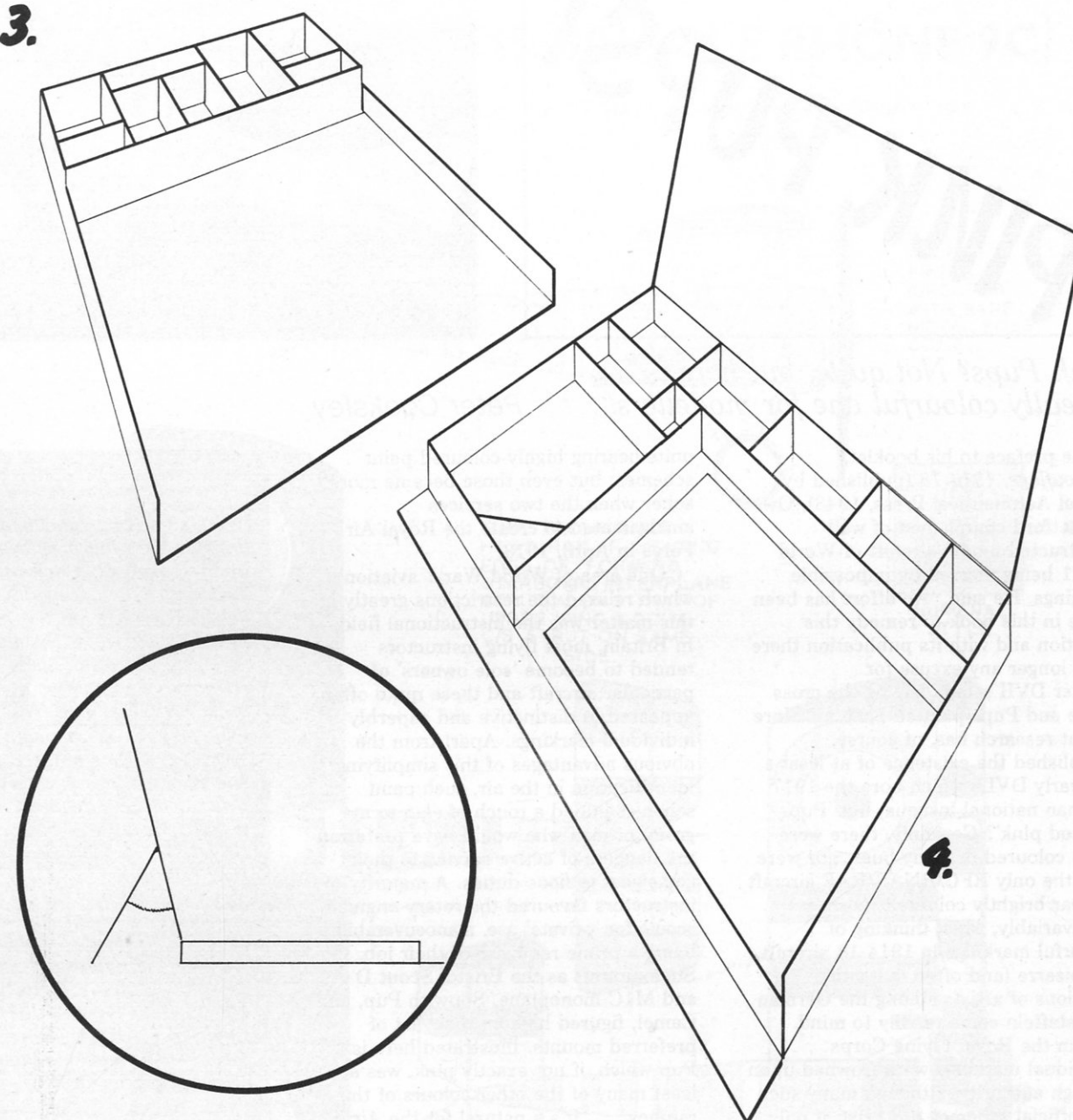
there are several options open to you: it is really a matter of personal choice rather than hard and fast rules. As far as lighting is concerned the kitchen is a good place to work as it is usually the one room in the house that is well lit. It does have disadvantages, however, and a more practical method is to have some form of 'mobile' lighting. An anglepoise light is ideal for this purpose. Various types are available - filament bulb or fluorescent tube types. There are some available with magnifiers in the centre with an O shaped fluorescent tube around the outside. The choice is wide and is really a matter of how much you are prepared to spend.

The next thing to consider is the work surface. This should be flat, durable and above all replaceable, even if you are lucky enough to be able to build a purpose made work bench, it is still worthwhile using a work surface to protect the bench against stray cuts and paint stains. Any piece of wood can be used but by far the 'best buy' I have found is an old cupboard door! This was purchased from an 'offcuts' merchant in the local high street for a nominal sum. Being covered in Formica it provides an excellent surface.



three feet should be added. The reason for three feet is to prevent 'rocking' of the tray if used on an uneven surface (this is the same principle as with a three legged stool). Two feet should be placed at the front, where any pressure would be applied, and one centrally at the rear of the tray. Storage could be made up in any form to suit individual requirements. For example, compartments could be added to the sides and rear to incorporate storage for tools and paint. These could be constructed from strip wood quite easily as in Fig 3. Alternatively tobacco tins could be affixed to the tray to facilitate storage of small parts. These can be 'stacked' by glueing the lids to the bottoms of tins above to form a tower of storage tins with contents labelled on the edges.

3.



If you fancy something a little more elaborate, then the only limiting factor is your imagination. One point to think about is that you may not need all your modelling equipment at the same time so you can select, from a master storage, the items you will need for the particular job. For example if you are in the initial stages of building an aircraft you will need knife, file, glues, etc. but there is no need for your entire stock of paint, if indeed, any at all! A rather more elaborate work 'tray' is detailed in Fig 4.

The tray can be developed to house most of the bits and pieces required for modelling. However, there are some items which I feel are best kept off the tray if at all possible.

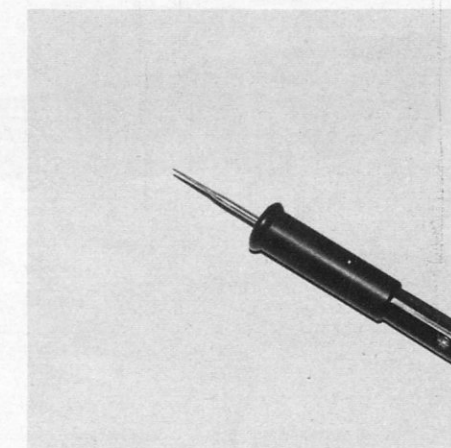
These are liquids. The two major candidates for this are brush

cleaner and 'liquid glue'. The reason for keeping them off the tray is to cut down the risk of accidental spillage. Another good safe guard is to transfer an amount of the liquid glue to a smaller container and use that. Then if it does get spilt you haven't lost your entire stock. If, like me, you can still find a way of knocking the bottle over some 'steading' is called for. A neat way of doing this is to set the bottle into a block of plaster or even plasticine.

Another 'off the tray' piece of equipment is a small piece of glass. This has many uses, such as a flat surface to check that all the wheels of an aircraft's undercarriage are touching the ground. It is also good for standing tins of paint and paint brushes on as it can be cleaned easily.

Next month we'll discuss the tool kit and some worthwhile additions.

Ralph Laughton.



Do you know what this is? Find out in next month's Workshop.

PINK PUPS!

Pink Pups? Not quite, but here is a really colourful one for modellers...

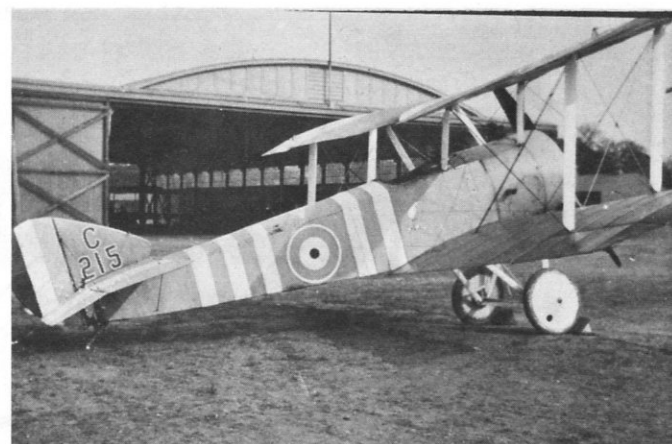
Peter Cooksley

In the preface to his booklet, *Camouflage, 1914-18* (published by Model Aeronautical Press, 1943), Owen G. Thetford complained of well-constructed model aircraft of World War 1 being marred by impossible markings. He said, 'An effort has been made in this book to remedy this situation and with its publication there is no longer any excuse for Fokker DVII scouts having the cross patee and Pups painted pink...' More recent research has, of course, established the existence of at least a few early DVII's which bore the 1917 German national insignia, but 'Pups painted pink'? Certainly, there were Pups coloured in many hues; nor were they the only RFC/RNAS/RAF aircraft to bear brightly coloured finishes.

Invariably, when thinking of colourful markings in 1914-18 aircraft, the bizarre (and often fantastic) creations of artists among the German Jagdstaffeln come readily to mind. Within the Royal Flying Corps individual markings were frowned upon by high authority; although many such non-official schemes did exist, if only for brief periods. The Royal Naval Air Service appears to have been more tolerant in such matters, some of its

units bearing highly-coloured paint schemes; but even those became more sober when the two services amalgamated to create the Royal Air Force in April, 1918.

One area of World War 1 aviation which relaxed the restrictions greatly in this matter was the instructional field. In Britain, most flying instructors tended to become 'sole owners' of particular aircraft and these quite often appeared in distinctive and superbly individual markings. Apart from the obvious advantages of this simplifying identification in the air, such paint schemes added a touch of *elan* to a group of men who would have preferred the dangers of active service to their somewhat tedious duties. A majority of instructors favoured the rotary-engined scouts for 'private' use, manoeuvrability being a prime requisite of their job. Such aircraft as the Bristol Scout D and M1C monoplane, Sopwith Pup, and Camel, figured high on their list of preferred mounts. Illustrated here is a Pup which, if not exactly pink, was at least many of the other colours of the rainbow..... It's a natural for the *Airfix* Sopwith Pup kit and all details and markings can be followed from the scale drawings and photographs.



This article, photographs and drawings are taken with permission from Cross & Cockade, Great Britain, the superbly-produced quarterly organ of the Society of World War I Aero Historians. This organisation also holds meetings regularly at several centres throughout England. The author of this feature is among the past speakers at some of these gatherings and the drawings were produced by Peter Cooksley, frequent contributor to Airfix Magazine, whose latest book, Skystrike, is published by Robert Hale this year.

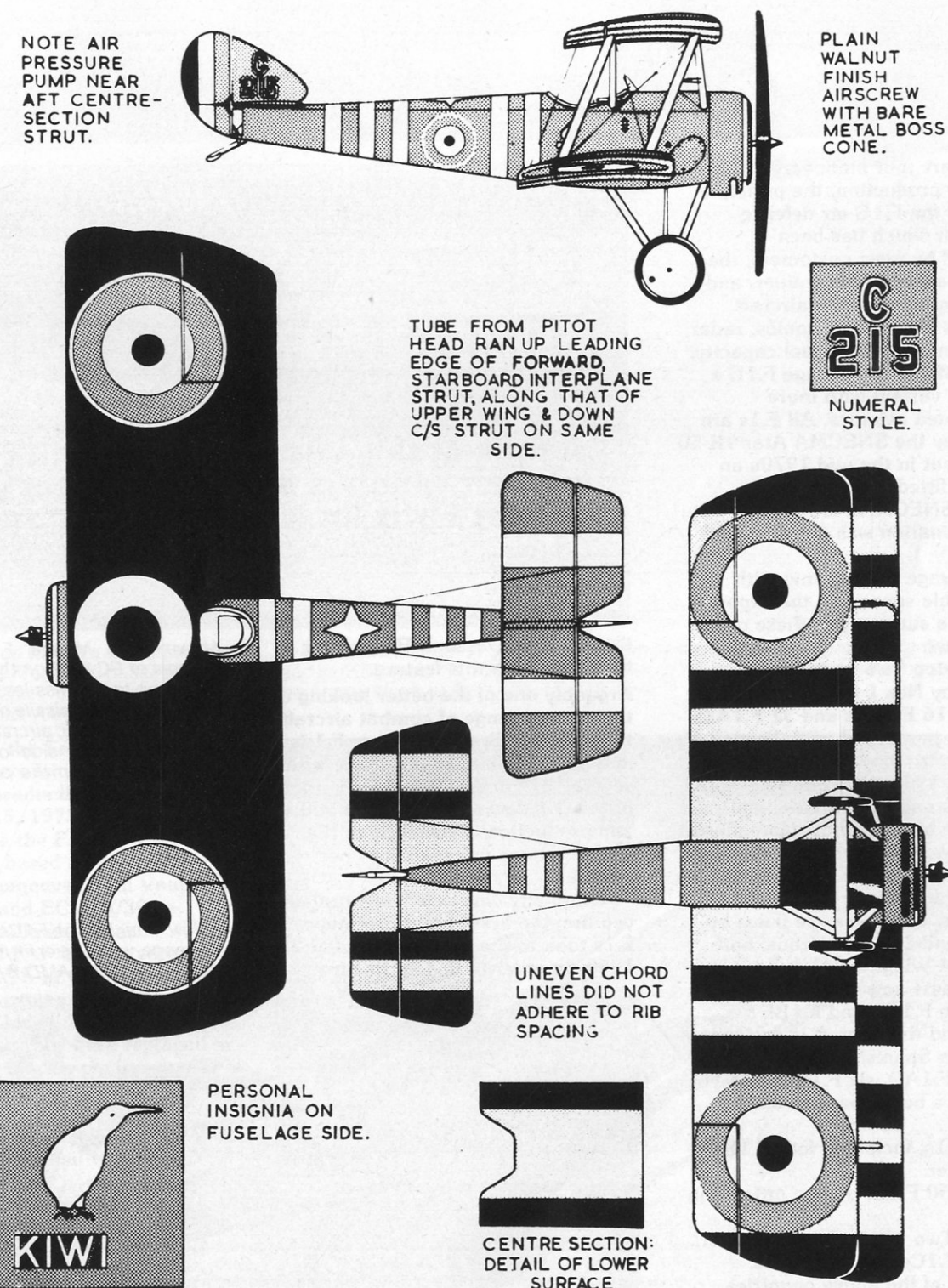
Readers wishing to know more about this Society should send a stamped, self-addressed envelope to the Membership Secretary at 23a Winchester Street, Farnborough, Hampshire, GU14 0EA. Enquiries from overseas should be accompanied by an IRC.

METHUEN	
	WHITE.....A1
	CLEAR DOPE.....2 A (4-5)
	BLUE.....21 C8
	KHAKI.....4 F8
	RED.....9 A8

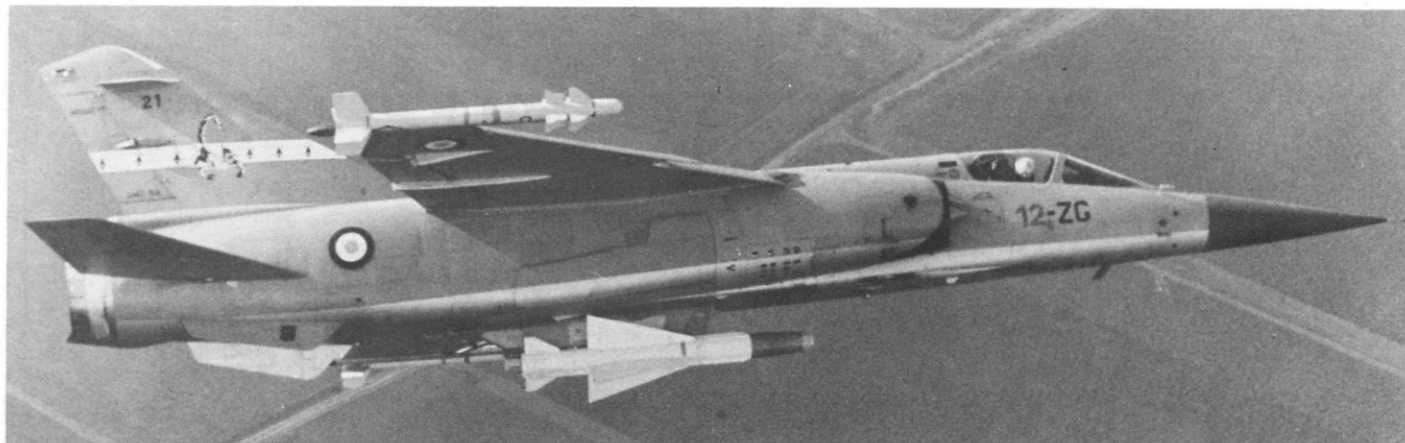


SOPWITH PUP, C215. (80 h.p. LE RHÔNE 9C)

A STANDARD-BUILT MACHINE BELIEVED TO HAVE FLOWN FROM GOSPORT, 1918.



RESEARCH BY B.J.GRAY. DRAWING BY P.G.COOKSLEY.



There are four main versions of the F.1 in production, the principle one being the F.1G air defence interceptor which has been purchased by most customers, the F.1B two-seat combat trainer, and the F.1A ground attack aircraft which has simplified avionics, radar ranging and increased fuel capacity. Also on offer is the Mirage F.1E a multi-role variant with more sophisticated avionics. All F.1s are powered by the SNECMA Atar 9K-50 turbojet, but in the mid 1970s an F.1E was fitted with the more powerful SNECMA M53 engine, but this combination was not preceded with.

The Mirage F.1 has met with considerable success in the export field, and a summary of these orders is as follows:

South Africa Two variants are operated by Nos 1 and 3 Squadrons. A total of 16 F.1CZs and 32 F.1AZs have been purchased, with licence production in South Africa.

Kuwait In 1974 this country ordered 18 F.1CKs and two F.1BKs, and these have brown/sandy camouflaged upper surfaces, with light grey undersides.

Greece The Hellenic Air Force have 40 F.1GGs, and these are flown by Nos 336 and 342 Squadrons, both part of 114 Wing, based at Tanagra.

Spain Orders now total 72, comprising F.1CE and F.1BE models, and the aircraft is designated the C.14 in Spanish service.

Libya 16 F.1AD, six F.1BD, and 16 F.1ED have been operated since 1976.

Iraq 32 F.1s, including four F.1Bs are on order.

Morocco 50 F.1CHs were ordered in 1975.

Ecuador Two versions are on order, being 16 F.1Cs and two F.1Bs.

Several of the above countries have further aircraft on option, and other unconfirmed orders are believed to exist. Thus it seems that this clean looking fighter will be an established feature of military aviation for many years to come, following in the wake of its famous predecessor, the Mirage III. My

Close up on THE MIRAGE F1

A look at this successful French combat aircraft which is also the subject of a recent Airfix kit.

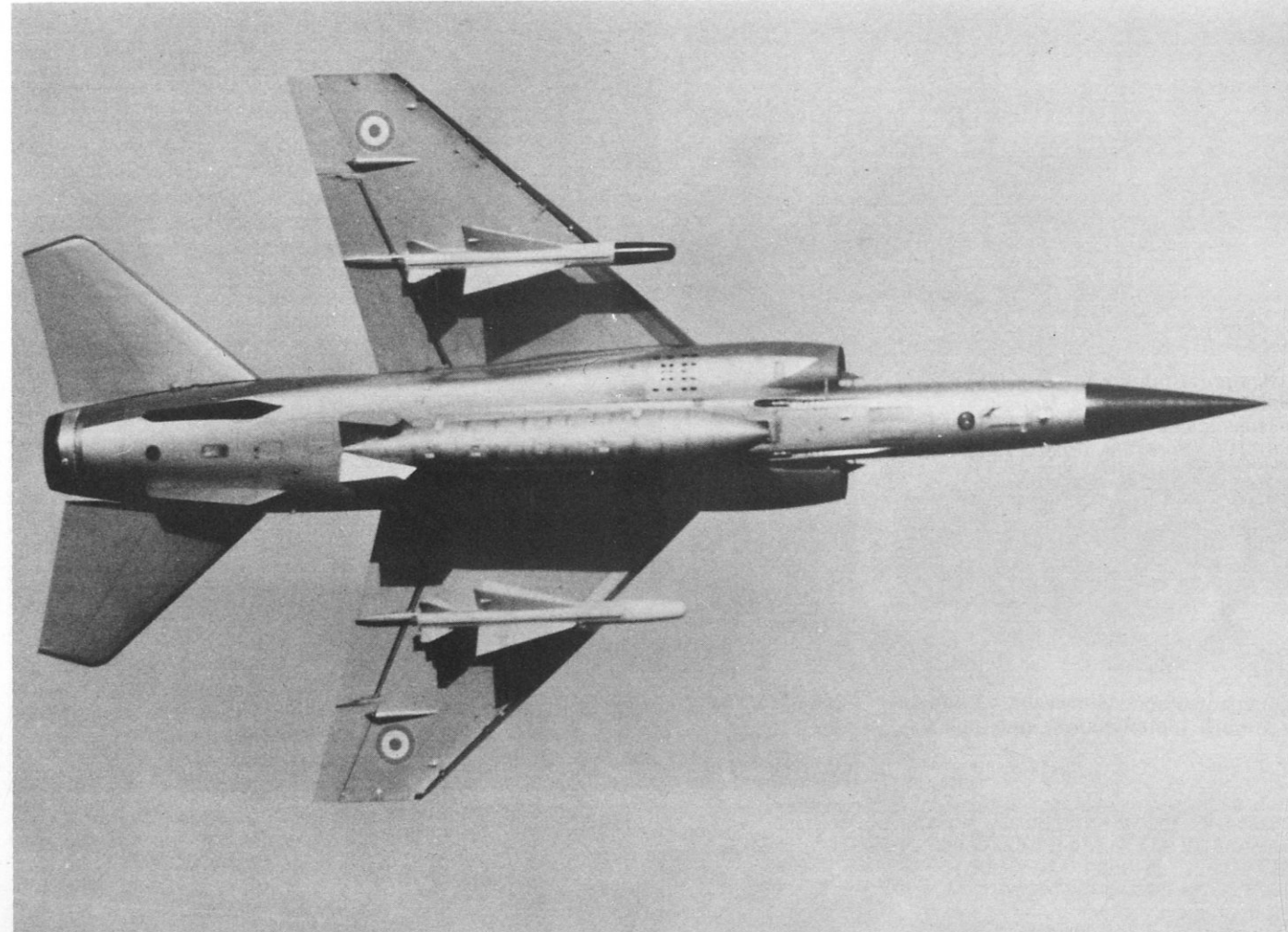
thanks go to Dassault-Breguet for their help with this feature.

Arguably one of the better looking of the current range of combat aircraft, the Dassault Breguet Mirage F.1 is now well established in service with several air forces. Orders for variants of the G.1 now total well over 500, and production is currently at the rate of four to five machines per month.

Originally developed as a private venture, the first of four prototype F.1s took to the air on December 23, 1966. In order to update its air

Above: This Mirage F.1C carries the insignia of EC 2/12 on the tail. Matra 550 Magic air-to-air missiles at the wingtips, and a Matra 530 missile on the centre line. Based at Cambrai, aircraft of 2/12 have a scorpion on this side of the fin and a bulldog's head on the port side. (Photo: AMD-BA).

Below: Four Mirage F.1Cs of EC 1/5 based at Orange, with earlier fin markings used by this unit. (Photo: AMD-BA).



Above: Underside view of a French Mirage F.1, carrying two Matra 530 missiles and a 1200 litre fuel tank. Note gun ports under air intakes (Photo: AMD-BA).

Below: Three Mirage F.1Cs from the Reims-based all-weather fighter wing, ECTT 30. The lead aircraft, serial 14, coded 30-MP is from ECTT 2/30, whilst the two wing aircraft carry the fin markings of 3/30. (Photo: AMD-BA).

defence force, the French Air Force placed contracts for the F.1 in 1970, and the first production machine flew on February 15, 1973. The first FAF unit to operate the F.1 was Escadrille 2 of ECTT 30 based at Reims, who began the changeover from Vautours in late 1973, and ECTT 3/30 re-equipped the following year.

The second FAF wing to receive the F.1 was EC 5 at Orange, with the first aircraft arriving in 1974 as replacements for Mirage IIICs. However, these F.1s were replaced in 1977 by later models equipped with in-flight refuelling probes, and it seems probable that EC 5 will operate a number of F.1B two-seaters flown by an additional unit to be formed in the operational conversion role.

Other FAF units to equip with the F.1 are EC 12 at Cambrai, who started to replace their Super Mysteres in late 1976, and EC 10 at Creil who formerly flew Mirage IIICs. A future development of the F.1 in FAF service concerns a photo reconnaissance version, which may replace the Mirage IIIRs or ER 33 in the 1980s.

Peter F. Guiver





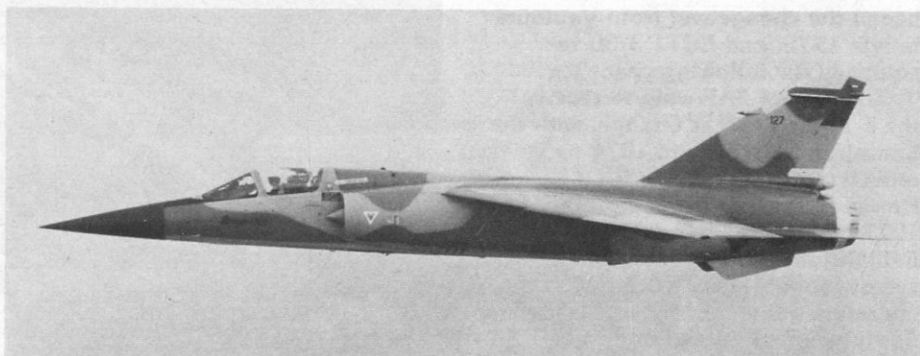
A Mirage F.1 fitted with Sidewinder missiles at the wingtips, Matra 530 missiles under the wings, and a centre-line 1100 l fuel tank. (Photo: AMD-BA).



This Mirage F.1 is fitted with four 400 kg bombs under the fuselage, and two wing tanks of 1100 l capacity. (Photo: AMD-BA).



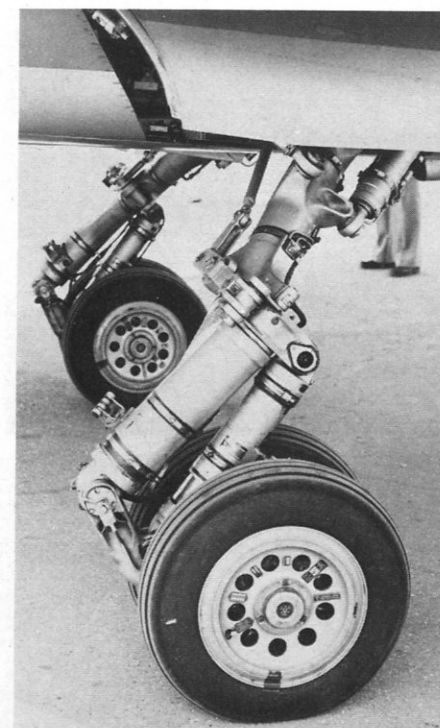
No 127, a Mirage F.1CH of the Moroccan Air Force, with tan, drab green, and medium grey camouflaged upper surfaces, and light blue/grey undersides. Areas at fin tip and base of rudder are light grey. Note central fins are camouflaged also. (Photo: AMD-BA).



A Kuwait Air Force Mirage F.1B two-seater, in brown and light tan camouflage. Lines on wings are yellow, fin tip light grey (Photo: AMD-BA).



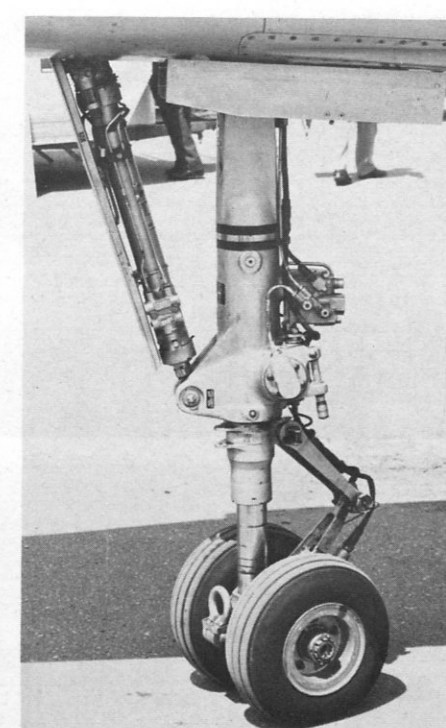
Carrying a vast array of bombs on fuselage and underwing pylons, together with wingtip missiles, this Mirage F.1 also has a probe and other modifications under the nose. (Photo: AMD-BA).



Side view of the main undercarriage legs on a French A1F Mirage F.1C. (Photo: Peter F.Guiver).



Front view of Mirage F.1 port main undercarriage leg, which is mainly light grey. (Photo: Peter F.Guiver).



Mirage F.1 nosewheel undercarriage leg, in light grey. (Photo: Peter F.Guiver).



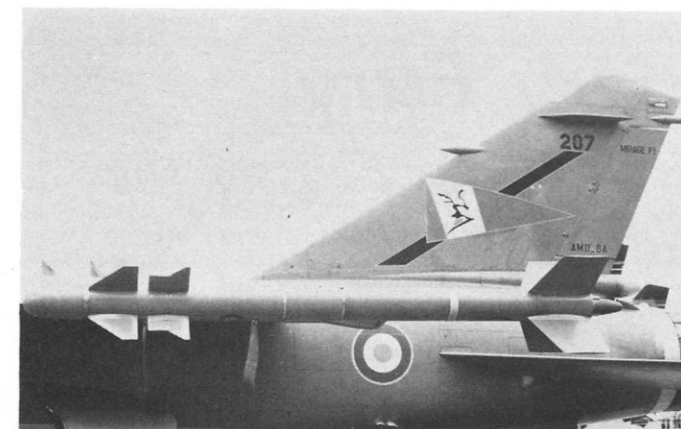
Cockpit area detail on Mirage F.1C No.69, coded 30-MD of ECTT 2/30. Standard Steely-blue upper surfaces, safety instructions behind cockpit in black and yellow, explosive canopy warning in red with black arrows, codes in black. Cockpit interior visible is black or grey. Mouse is grey with black outline and yellow whiskers. (Photo: Peter F.Guiver).



Mirage F.1C No 211, coded 30-FR, of ECTT 3/30 with panels removed for a maintenance display at the 1979 Paris Air Show. Fin flash is mainly yellow, with a narrow red inner band, with three white birds. Other markings black. (Photo: Peter F.Guiver).



From left to right: In-flight refuelling probe fitted to a Mirage F.1C of EC 1/5. Probe is black with polished tip. (Photo: Peter F.Guiver). Rear fuselage detail of Mirage F.1C No 69 of ECTT 2/30. Upper surfaces are steely blue, extreme rear of jet pipe is burnt metal, then there is a highly polished metal ring. Badge is a red shield, with yellow lions and detail, and a grey horizontal flash. (Photo: Peter F. Guiver). markings of SPA124 on port side of fin of F.1C No 207, of EC 1/5. Diagonal bar is black, pennant is green and white, helmeted head is grey and black, and there is a narrow yellow outline. Wingtip AAM is a Matra 550 magic in light grey. (Photo: Peter F.Guiver). SPA26 badge on the starboard side of the fin of F.1C No 207. Diagonal bar is black, pennant is red (rear), white, and place blue, both with yellow outline, stork is grey and black. (Photo: Peter F.Guiver). Displayed at the 1977 Paris Air Show was this Mirage F.1CG destined for Greece, in similar blue and silver as French AF machines. Wingtip missile white, intakes red, national



markings sark blue and white. (Photo: Peter F.Guiver). A Mirage F.1CH of the Moroccan Air Force, serial 146, camouflaged in tan, drab green, and medium grey, with pale undersides. Missiles and bomb rails light grey, bombs very dark green. (Photo: Peter F.Guiver). At Farnborough in 1978 was this F.1B two-seater in tan, dark green, and grey camouflage, but with French markings. (Photo: Peter F.Guiver). The badge of SPA 162 on the starboard side of the fin of F.1C No 67, coded 12-YR, of EC 1/12 from Cambrai. Tigers head is black, yellow and white with red eyes and mouth; flashes are red with thin yellow edging. Badge on port side (of SPA 89) is a black and yellow hornet. (Photo: Peter F.Guiver). Ordnance mounted under a Moroccan F.1CH at Paris. On the fuselage is four Matra Durandal penetration bombs; all mostly light grey. Under the wings are several dark green bombs fitted to light grey pylons. (Photo: Peter F.Guiver).



Hercules C3 - from page 599

plastic tabs on the inside of the rear fuselage extension, prior to cementing it back on at points C-C and D-D. It will become apparent that although the extension matches up nicely at the top of the fuselage contours, the same cannot be said for the sides and the bottom, owing to the convex shape of the fuselage contours. This, I found, had to be remedied by building up the sides and bottom with a series of plastic card laminations until I arrived at somewhere near the existing fuselage contours. I then finished it off using filler.

By now, with any luck, you should have a complete C3 fuselage. The wings and elevators can now be assembled, taking in the final stages of construction (15 - 23), omitting as

previously explained, any such parts as the props, aerals and fuel tanks which are liable to impede you whilst painting. Having now assembled the main construction of the aircraft, the tiresome job of filling all the necessary cracks and joints presents itself. I found a certain amount of filler was needed on the underside of the front fuselage extension, as the bottom did not quite marry up to the existing fuselage contours. The rest of the filling is confined to the wing/fuselage joint elevators along with various places where the two fuselage halves went together. My preference was to use Milliput, as in my opinion this is one of the best fillers on the market. It rubs down easily, renders a very smooth finish and does not crack or shrink.

The next stage involved preparing the aircraft for painting and applying the finishing touches. After all the joints have been rubbed down, using various grades of 'wet and dry' paper, the aircraft was given a thorough clean in lukewarm soapy water to remove any dirt, grease and dust which had built up during construction. Prior to airbrushing the model, all windows and transparencies were treated to a coat of Maskol. The camouflage colours used were Dark Sea Grey HX2, Dark Green HX1 and Light Aircraft Grey HX5 from the Humbrol range. Once the painting was finished the whole model was sprayed with a coat of Microgloss, ready to take the decals.

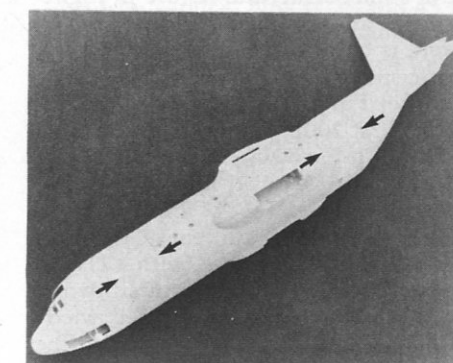
The decals in my sample left a lot to be desired, the problem being that the

roundels were off centre, so apart from the various stencilling markings alternatives were found from the Modeldecals range. All the low visibility roundels were found on Sheet 54, as were the fin flashes. The 36 inch black underwing serials and letters came from sheets 35 and 34. The 8 inch black fuselage serials from sheet 36 and the white wording Royal Air Force from sheet 48. The white serials above the fin flashes and below the front fuselage windows presented a problem, but this was eventually overcome by a Letraset sheet number 1874, 24pt Futura Medium. Unfortunately the sheet did not provide me with enough 2 numerals so these was made up of using the numbers 6 and 1. All the decals were applied using the now

familiar Microscale system.

A characteristic of the Hercules is the slight colour variation of the centre section wing panels. This was easily simulated by masking off the outer wing panels prior to spraying the centre wing sections with a mixture of Microgloss and matt at a ratio of 1-1, using the panel lines as a guide. At this stage the remaining props, fuel tanks and aerals can be cemented in place.

The C3 version offered a challenging conversion and I received a great deal of pleasure in building it. It looks particularly striking if displayed with an example of the original unconverted version. You will find useful additional references in *Aircraft Illustrated* (March 1980) and *Air Pictorial* (February 1980).



Here's a final view of the modified fuselage the extensions are inserted where arrowed.

The Legendary Fury

John Rawlings recalls the glorious days of the RAF's famous biplane fighter.



In these days it is customary to look back on the 1920s and 1930s and romanticise about the glorious biplane fighters which graced Britain's skies, adorned with the roundels of the RAF. In this euphoric nostalgic mood it is very often forgotten that many of these same biplanes were no more than mediocre, that some of them had poor handling characteristics and, with some, structural failure in flight was not an unknown attribute. But there is one aircraft of which no such criticism can be made and this is the Hawker Fury. Not only was it the RAF's first 200mph plus aircraft, not only did it have superb handling characteristics, but it looked the part par excellence. Most of all, if one wants to establish a likeness, it looked like a racehorse, with a classic grace of line, from the pointed two-blade airscrew, past the close-cowled Rolls-Royce Kestrel engine, up to the cockpit and then falling away to the tailplane. With wickedly raked wings of unequal span and long, leggy undercarriage it taxied as though it was walking around the paddock, eager to get flat out. And when it took to the air it was all rapid, graceful movement.

Above: Where it really all started - Sydney Camm's first bid for an in-line liquid-cooled fighter was the Hawker Hornbill, the prototype of which, J7782, is seen here. It failed due to the unreliability of its R.R. Condor engine. (J.K.Fletcher). Below: J9682 was Hawker's Hornet which was so revolutionary that it in effect became the Fury prototype and ushered the Fury on its career. It is seen here at Tangmere in 1930. (A. G. Williams).



Its origin can best be described as progressive refinement coincidental with the arrival of the right power plant. Ever since Sydney Camm became chief designer at Hawker's his intention had been to improve the breed and the range of fighter prototypes emanating from his drawing boards (and the flight sheds at Brooklands). Starting with the Woodcock, his first advance was to change to metal structure with the Heron. Camm was not really an

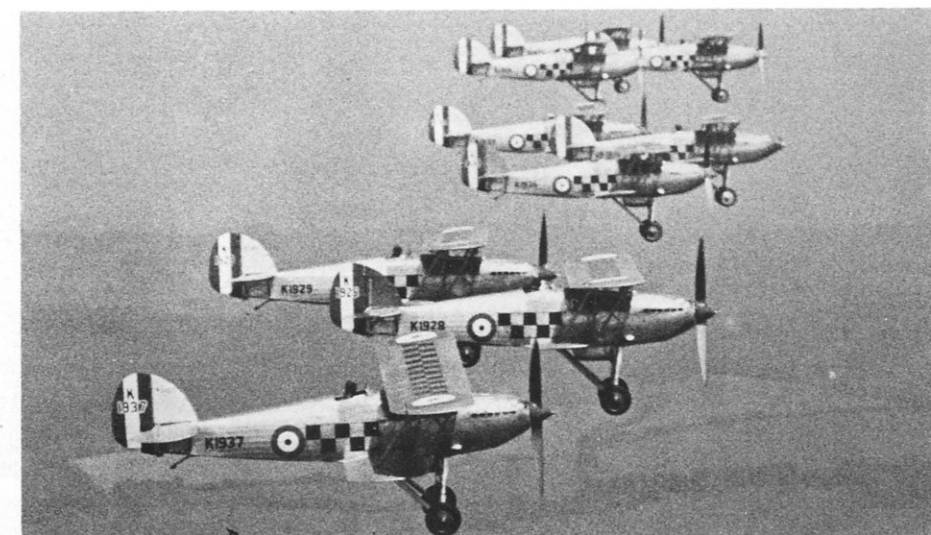
enthusiast for radial engines so his next design was the Hornbill with an in-line Rolls-Royce Condor. The aircraft was fast but had both directional control and engine cooling problems. So it was back to radials with the Hawfinch and a fleet fighter the Hoopoe. The Hawfinch was entered for competition in the trials for the RAF Specification F9/26, a competition in which nine aircraft from major British manufacturers were entered. (There were nine major British air-frame constructors then). The competition was won by the Bristol Bulldog, which was ordered into quantity production, and the Hawfinch was relegated to experimental flying. But in 1927 a new development arrived which gave Sydney Camm ideas. This was the Rolls Royce F.XI engine which was destined for the Hawker Hart bomber and which, due to the cylinder banks being one casting, gave much greater power to weight ratio than had previously been possible.

So design went ahead, refining the basic steel tube airframe to the greatest degree and installing this new in-line engine in a closed-cowled nose. The result, which Hawker's

called the Hornet, flew in march, 1929, and appeared alongside the Hawker Hart at that year's Olympia Aero Show where it became the talk of the aeronautical fraternity. For this aircraft could top 200 mph in level flight and had the handling qualities to match. Service test pilots at Martlesham Heath (where A & AEE resided until 1939) waxed lyrical about this magnificent new fighter and it was soon back at Brooklands where it was bought by the Air Ministry for the RAF and named the Hawker Fury Mk 1.

All this put the Air Ministry in a quandary. Only two years before they had ordered into quantity production the Bristol Bulldog, with its top speed of 174 mph; it now had a day-bomber, the Hawker Hart, coming into service in vast numbers which could best that by 10 mph and here was a fighter available that could manage 200 mph. They could not stop the flow of Bulldogs and already the economic depression was looming which would make money tight. So to start with an order for only 21 Furies was given, enough to equip one squadron. It is staggering to think, these days, that the order was placed in August, 1930, the first aircraft of the batch was flown at Brooklands on 25 March, 1931, and the order was completed 21 days later! The aircraft were quickly accepted into service as they had few snags, and No 43 Squadron became the proud possessors of this finest of fighters. In service the Fury was an immediate success. Not only was it a superb aerobatic mount, to which the neighbourhood around Tangmere, 43's station, could testify, but more important it was highly successful as an interceptor, a fact which showed up strikingly when first the squadron took part in Annual Exercises.

So the first batch of Furies (K1926-1946) was swiftly followed by an order for a further 48 aircraft (K2035-2082). Hawkers took only three months to complete the whole batch and the next squadron to receive them was No 25 at Hawkinge, beginning at the end of 1931 and completing by February, 1932, the month in which the third Squadron, No 1, received theirs at Tangmere. Because so many Bulldogs had been ordered no more Fury squadrons were envisaged but these three became a *corps d'elite* in Fighter Command during the thirties and built up a tremendous reputation. The rivalry between the two Tangmere and one Hawkinge squadrons was intense and this produced an ever-increasing refinement in their manoeuvres and especially in their display routines. No 43 had become the exponent of formation aerobatics so No 25 went one better and worked up a team of



Above: the first squadron to receive Furies was No 43 at Tangmere. A nine-ship squadron formation is seen here; note the black/silver check markings and the Flight Commander's painted fin, probably red of A Flight, on K1928. Below: 25 Squadron's famous trio flying low-level close formation at a display, possibly at Filton, about 1935. Although the aircraft are not tied-together here it is easy to see how they could fly with elastic cords linking them.



three aircraft which performed their entire aerobatic routine tied-together by elastic cords, bringing this feat to the Hendon Display of 1933. By 1934 No 1 had worked their team up sufficiently to be the RAF's representatives for the Canadian Centennial Celebrations in Toronto in the summer of 1934. So all three units were at their peak of enthusiasm and efficiency and were certainly the foremost fighter squadrons in the RAF of the mid-thirties.

But Hawkers had not let grass grow under their feet. They had built their own Fury, with civil registration G-ABSE, and used this for development flying with various gun and engine installations (Kestrel IIS, IVS, VI, Kestrel Special and Goshawk). From this was developed the High-Speed Fury, K3586, which featured the Kestrel VIS engine, wheel spats, tapered wings and V shaped interplane struts. This type was not adopted for service, being a one-off also used by Hawker's for development, but it formed a basis for Hawker's tender for Specification F14/32 which resulted in the Fury II which incorporated the Kestrel VI engine, wheel spats and increased fuel tankage. Twenty-three aircraft

only were ordered initially (K7263-7286) and these went to 25 Squadron at Hawkinge at the end of 1936. Subsequently a further batch of 75 was ordered (K8218-8306), to be built by General Aircraft at Hanworth, and this batch dispensed with wheel spats as these has a habit of clogging up on soggy aerodromes and turning the aircraft over.

In many ways 1937 could be said to be the zenith of the Fury's squadron service. Nos 1, 25 and 43 were still the principal exponents in Fighter Command and all three took part in the final RAF Display at Hendon that year. No 25 Squadron's CO, Wing Commander C.A. Stevens, flew a Fury II in the Headquarters Race, but was severely handicapped and came in twelfth. Pilot Officer Caesar Hull of 43 Squadron flew a Fury I (K3731) in a scintillating display of individual aerobatics. The No 1 Squadron formation aerobatic team, comprising Flight Lieutenant Teddy Donaldson, Flying Officer Tops Boxer and Pilot Officers Johnny Walker and Prosser Hanks (using Furies K2024, 2043, 2881 and 5673) put up a magnificent display which they followed up at an international display at Zurich in July. And 25

Fury Facts and Figures

Span 30ft 0in, Length 26ft 8in, Height 10ft 2 in, Wing Area 252 sq ft.

Empty Weight 2,623lb (Mk I), 3,490lb (Mk II)
Loaded Weight 2,734lb (Mk I), 3,609lb (Mk II)

Performance

Mk I

Max Speed 297 mph
Ceiling 28,000ft.
Range 305 miles

Mk II

223 mph
29,000 ft.
270 miles

RAF Production

Mk Is

K1926-1946 21 aircraft
K2035-2082 48 aircraft
K2874-2883 10 aircraft
K2899-2903 5 aircraft
K3703-3742 13 aircraft
K5662-5682 20 aircraft

Mk IIs

K7263-7285 23 aircraft
K8232-8306 75 aircraft

RAF Squadrons

No 1 Squadron

used Mk Is at Tangmere from February, 1932 to November, 1938. Two red bars as squadron marking, closed at each end. Examples are K1926, K2043, K2043, K2881, K5673 and Mk II K8249.

No 25 Squadron

used Mk Is at Hawkinge from February, 1932 to 1932 and Mk IIs there from December, 1936 to October 1937. Two black bars as squadron marking, open at each end. Examples are K2041, K2053, K2069, K2877, K5677 (Mk I), K7263, K7276, K7821, K7285, K8251 (Mk II).

No 41 Squadron

used Mk IIs at Catterick from October, 1937 to January, 1939. It is doubtful if the Furies carried squadron markings. Examples K7263, K7280, K7285, K8238, K8248.

No 43 Squadron

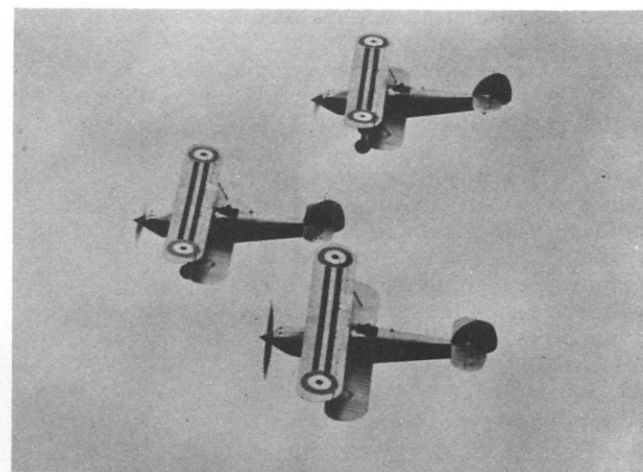
used Mk Is at Tangmere from May, 1931 to November, 1938. Black/white check marking, later modified to black/silver. Examples K1927, K1934, K1944, K2081, K2882, K3740, K5672, K8254 (Mk II).

No 73 Squadron

used Mk IIs at Mildenhall from March to July, 1937. Almost certainly no squadron markings carried. Examples K8244, K8253, K8268, K8279.

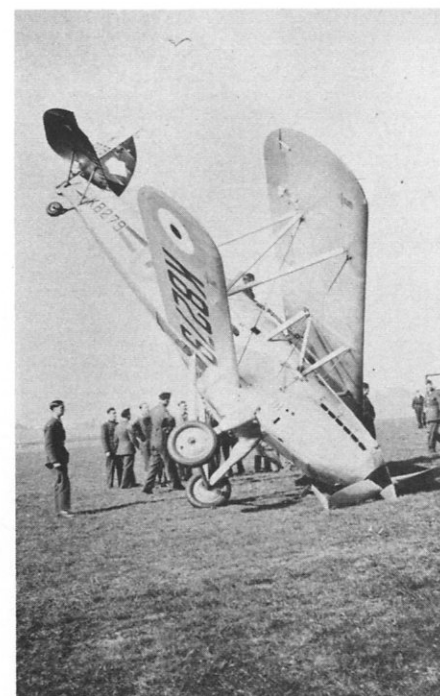
No 87 Squadron

used Mk IIs at Tangmere from March to June, 1937. Almost certainly no squadron markings carried. Examples K7276, K7281, K8234, K8245, K8257, K8276.



Top to Bottom: K2041 was one of No 1 Squadron's original issue and is seen here about 1931 with the red bars on the fuselage deleting the fuselage roundel and rudder stripes. (J.Beedle via John Rawlings). No 1 Squadron's hanger at Tangmere late in 1937 with Fury I K2899 sitting outside. Note the change in markings, no rudder stripes, yellow fin and wheel discs (B Flight) and squadron badge on fin arrowhead. The aircraft also carried, at this stage, aircraft letters on the cowlings, probably in black, K2899 being, M. (J.K.Fletcher). The first Hawker Fury II batch had wheel spats as on K7275 seen here on a misty autumn morning in 1936 at Brooklands. This aircraft went into service with 25 Squadron, then in 1937 transferred to 73 Squadron. (Real Photographs).

Top Left: The second batch of Fury IIs dispensed with wheel spats; they were built by General Aircraft of Hanworth. K8279, seen here in an unhappy position is A Flight Commander's aircraft in 25 Squadron.



Squadron flew its gleaming Fury IIs in a dive and low-flying attack on imaginary river pirates. In addition another Fury took part in the Headquarters Race, flown by Wing Commander J.H.O.Jones from Cranwell whence seven Furies had gone for the delectation of the instructors and cadets of the RAF College. He did better than Stevens, coming in third.

Hendon, 1937 had really been the public finale of the Fury. It continued in service, with the front-line squadrons, until January, 1939 and in fact even in 1937 three other squadrons equipped with Fury IIs, but all as interim equipment until their designated types arrived. No 73 Squadron at Mildenhall flew them from March to July, 1937, No 87 at Tangmere from March to June, 1937 and No 41 at Catterick from October, 1937 to January, 1939. But now the era of the biplane was departing and, with war looming

ahead, the Hurricane and Spitfire were soon to send the silver darting Furies out of Fighter Command. Already some of them had filtered through to the Flying Training Schools and with these they continued to delight and to imprint on trainee fighter pilots that lightness and sureness of touch which repaid dividends in the Battle of Britain. But the Fury had had its day as an RAF fighter, the finest thoroughbred of them all, an aircraft from which the classic Hurricane easily grew. Of course this is not the whole of the Fury story for it was developed with different engines, even, alas, radials once more, for five foreign nations and was itself the basis from which the Nimrod fleet fighter came along for the Fleet Air Arm. But those stories are for another time - for now, suffice to say that never has the RAF had a more beautiful, manoeuvrable and classic fighter in its ranks than the Hawker Fury.

MUNICH CRISIS FURY

Chris Ellis makes some simple changes to the 1:48 scale Airfix kit...

In September 1938 the news headlines all concerned Hitler's grab for Czechoslovakia. War now seemed more inevitable than ever before and the threat of immediate hostilities was only averted by the efforts of the British and French governments who proposed the partition of the Czech homeland so that part could be ceded to Germany. It was the period of the so-called 'Munich Crisis' - the top level talks were held at Munich - and the British Prime Minister, Chamberlain, returned from his final meeting with a form of peace treaty and the famous, but short-lived, 'Peace in our time' pledge. So the actual outbreak of war against Germany was averted for nearly a year, but in the fateful days leading up to the crisis talks, Britain went on to a war footing.

As far as the RAF was concerned it meant the end of the old colourful markings of the 1920s and 1930s, for almost literally overnight all machines not already camouflaged were given a hasty coat of sombre colours. Though the Hurricane was already in squadron service with Fighter Command there were still squadrons of Gauntlets, Gladiators, and Furies, and it was these that were suddenly transformed to take on an entirely different appearance. In the latter part of 1938 the days of the Fury were already numbered as a front line fighter, but Nos 1, 43, and 41 squadrons were still equipped with them, the latter squadron being the last to use them, until January 1939. Surviving Furies after this went to training units.

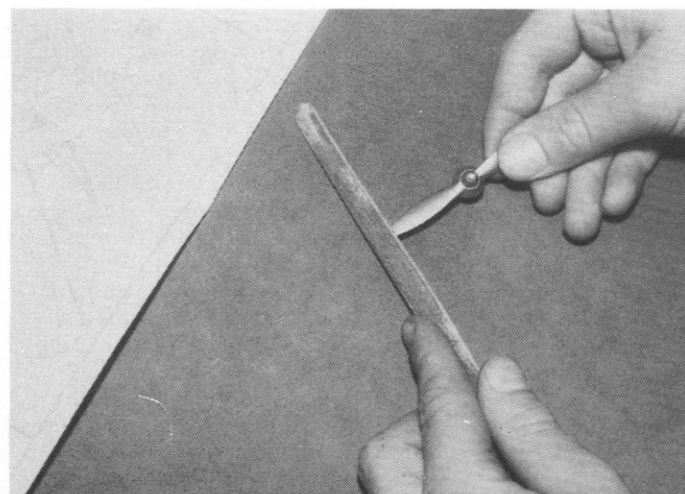
With the appearance of the attractive new Airfix Hawker Fury kit in 1:48 scale, I thought it would make a nice contrast to the era of bright colour schemes if the model was made up to depict one of the camouflaged machines. In fact, putting the silver and camouflaged models together makes quite a talking point and it is interesting to

conjecture just what might have happened if the war had actually started at the end of September 1938 and the Furies had flown in action against Me 109s and He 111s...

However, if you want a Fury which is a little out of the usual image of the type, then the conversion work is little more than a paint job. The biggest problem is getting the references, for in the heat of the moment much was extemporised and very little has been left for later generations of researchers. I have many of the aviation journals of the 'Munich Crisis' period and none of these so much as mention the Fury, let alone illustrate it's warpaint. The official pictures all show Hurricanes at the ready and reading the reports of those times you would be hard put to discover that quite a lot of biplane fighters were still in service! The best reference I have seen are in the Ducimus 'Camouflage and Markings' series (now out of print) where the Fury is quite well covered both in an individual part and in the bound volume. There is a nice set of pictures there of the Furies of No 43 Squadron just after camouflaging, and photographed early in October 1938. Using these pictures as a guide I could work out the camouflage scheme and the markings, but even with the pictures there is the need for some speculation.

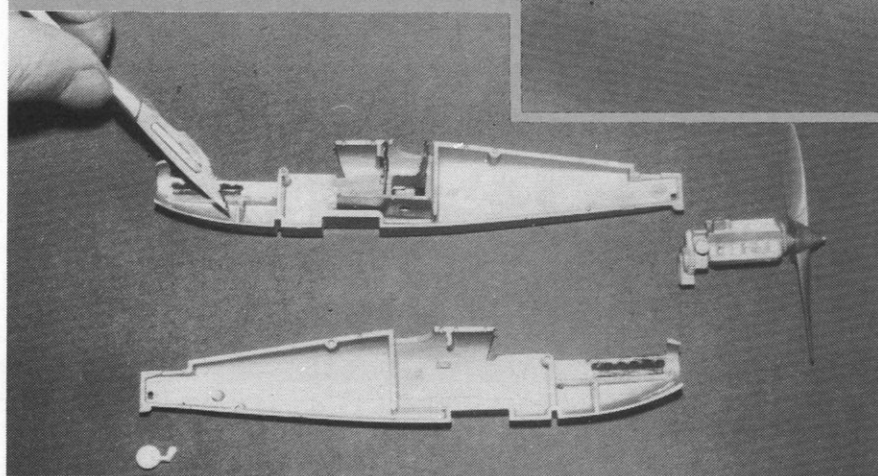
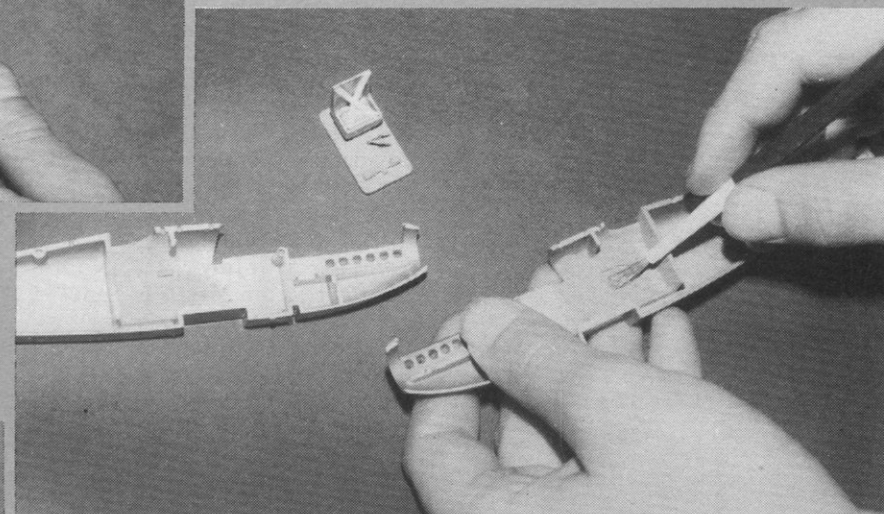
Making up the model for a 1938 period machine means that the tailskid must be replaced with a wheel. My scrap box yielded a 1:72 scale nosewheel from, I believe, a Sea Hawk, and this was exactly right once it had been trimmed slightly. Also I made up a thinner windscreen from clear plastic card. The extra alteration I made was to cut out the control surfaces and either bend them or re-position them with a slight 'droop'. This gives a parked aircraft a much more realistic appearance. Obviously this can be done on the model whether you alter the colours or not.

Turn page for model pictures



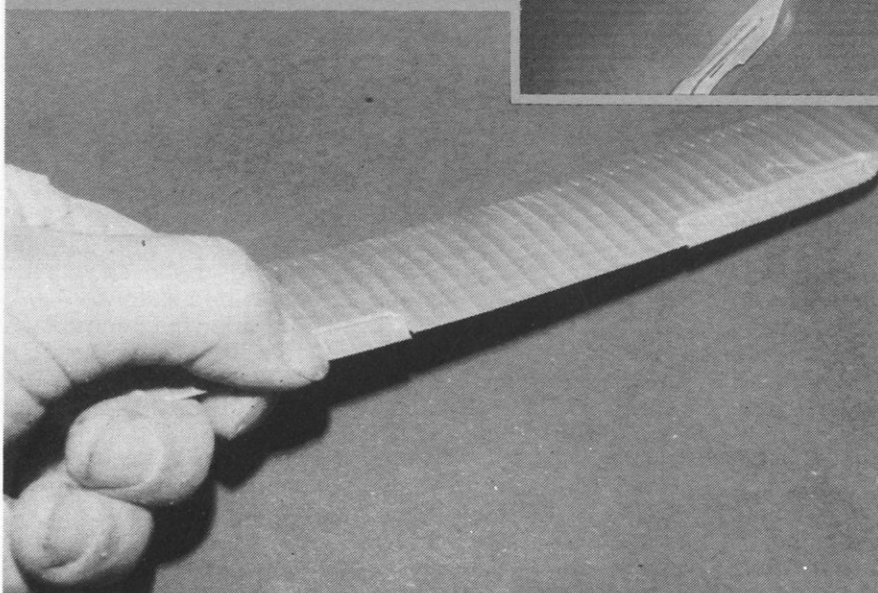
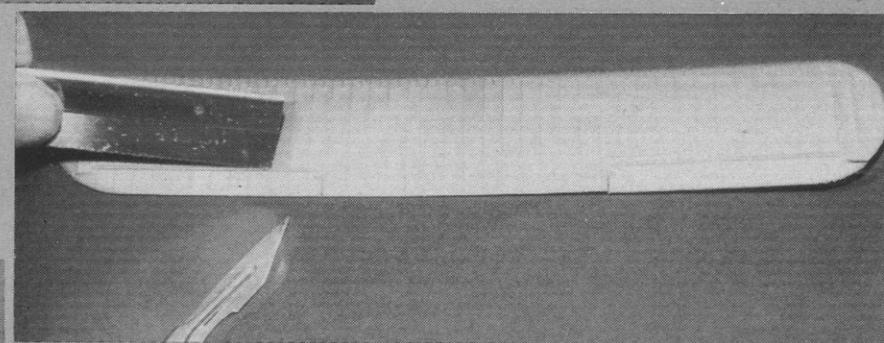
Check the parts against the instruction sheet before assembly begins: then use a fine emery board, followed by 'wet and dry' or fine glasspaper to clean off any small amounts of flash.

After assembling the cockpit interior use strips of paper or plastic card to add the seat straps. Then paint the entire cockpit interior, using interior green with khaki for the straps and parachute pack, black for the instrument panel and controls.

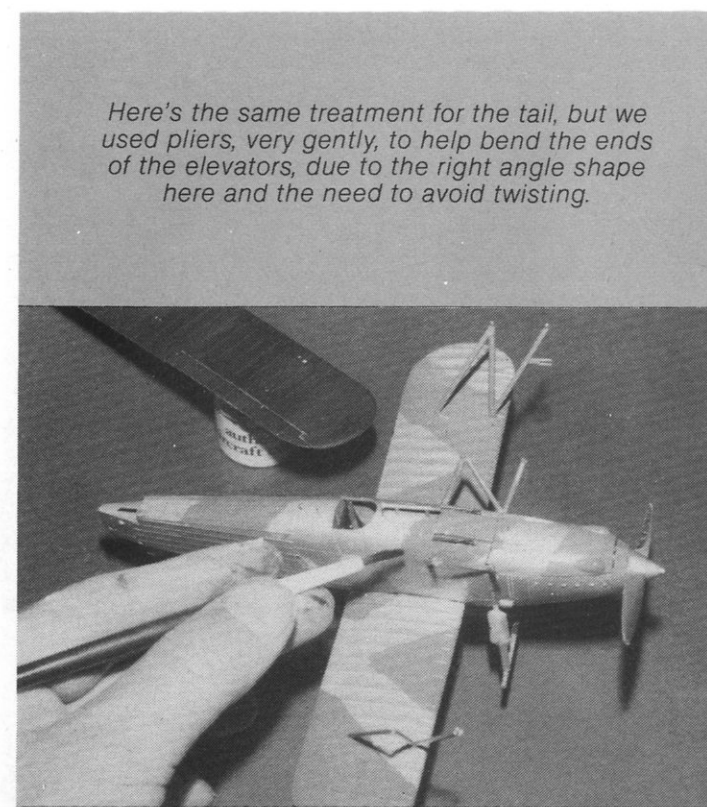


Assemble the cockpit interior to the fuselage, as seen here. Then make up the engine. If you want the cowling to be detachable, paint the engine at this stage. After a 'dry run' we found it necessary to cut away part of the interior framing to allow the engine to fit snugly so that the fuselage halves butt properly together. This is what we are doing here. We've also found a tailwheel to replace the skid provided in the kit.

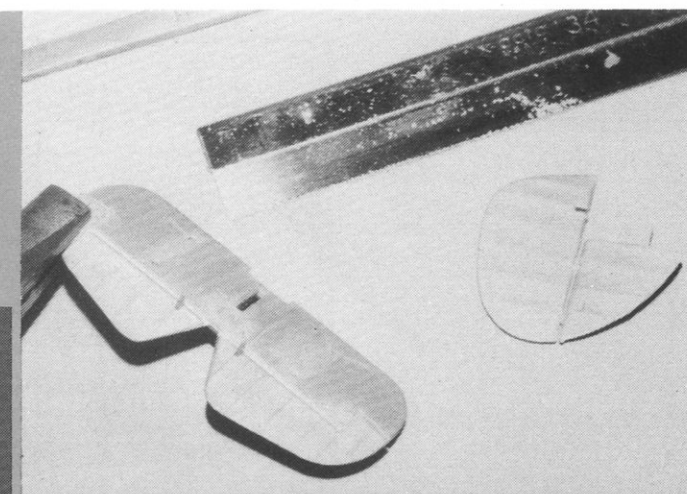
We sawed and cut through all the control surface hinge lines so that the control surfaces could be allowed to 'droop' a little as they would on a parked aircraft on the ground. The ends were sawed through completely and the hinge lines were sawed through just halfway.



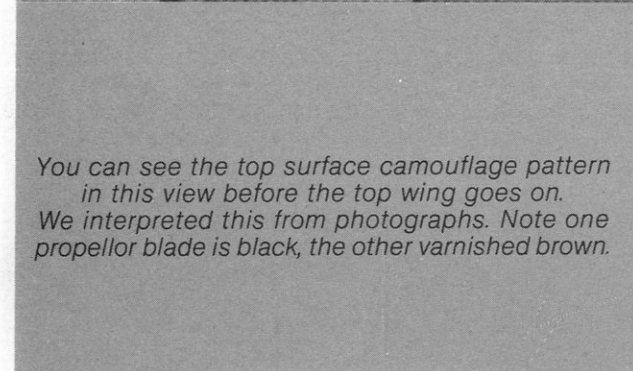
Using finger pressure the ailerons could then be bent down slightly.



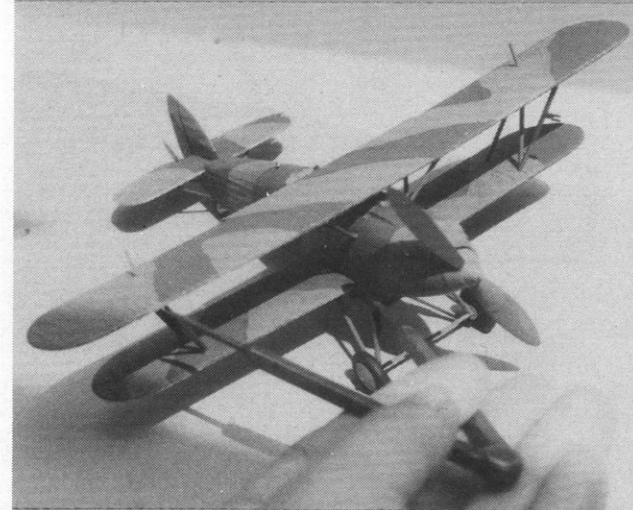
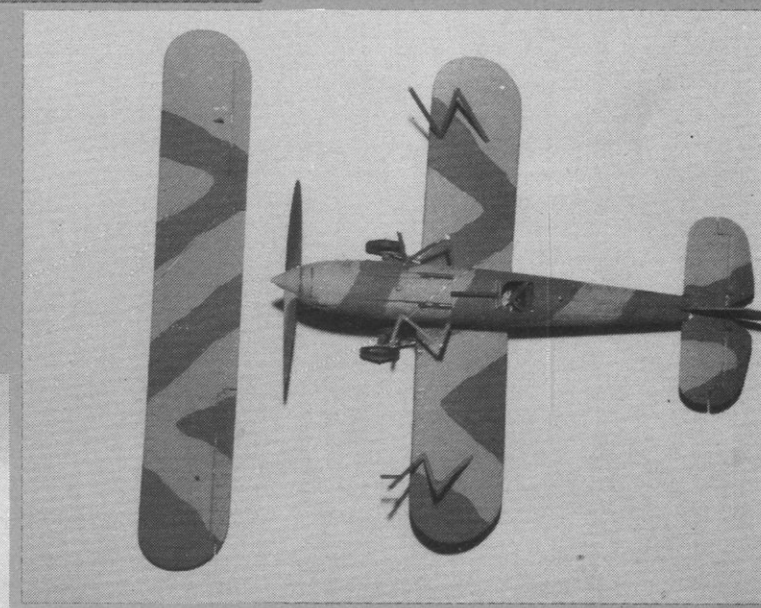
Here's the same treatment for the tail, but we used pliers, very gently, to help bend the ends of the elevators, due to the right angle shape here and the need to avoid twisting.



Assembly now follows the kit instructions but we did all the painting before final assembly. Here the dark earth is applied. The cowling top just rests in place. Note underside of wing propped on tins to dry.

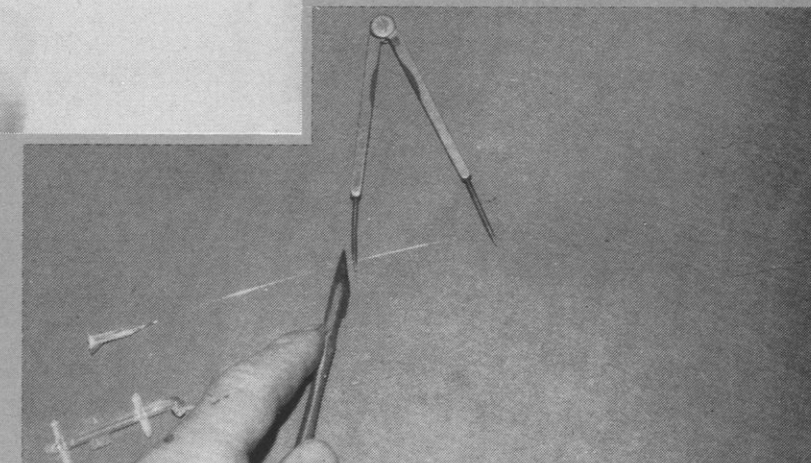


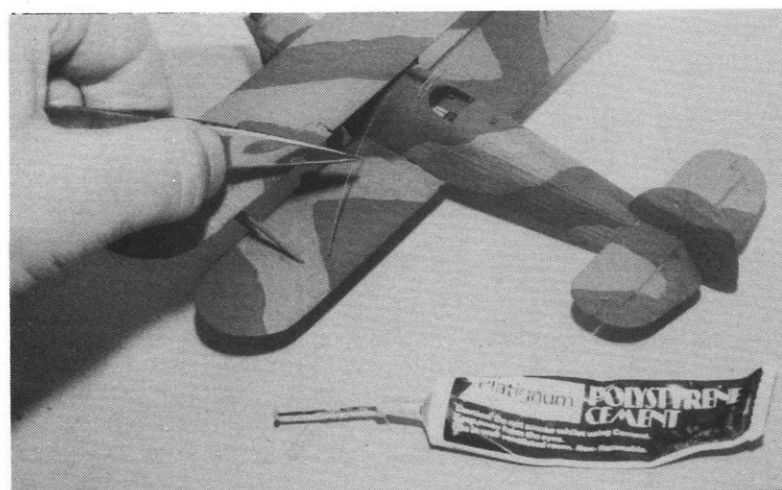
You can see the top surface camouflage pattern in this view before the top wing goes on. We interpreted this from photographs. Note one propeller blade is black, the other varnished brown.



With assembly complete pull some fine heat-stretched sprue for the rigging, using transparent sprue if possible. Use a pair of dividers to measure off the length of each wire.

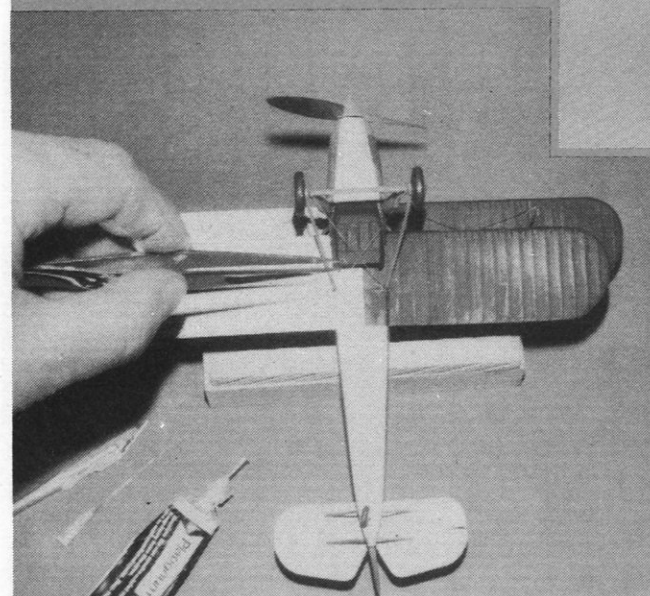
Place the dividers against the fine sprue and snip off the length.





Add a pin head sized blob of plastic cement at each locating point add pop the length of rigging in place using tweezers.

Here all the wing rigging in place, just a few minutes later - it is a fairly quick process once you've drawn out the sprue.



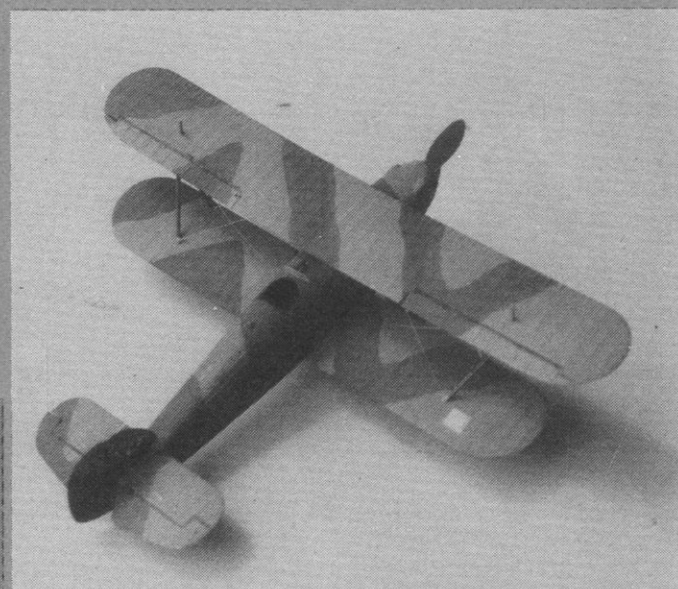
Here the undercarriage rigging is added. Note the half black, half white painting of the wings; rest is silver.



And here's the finished model in very sombre finish as a contrast to the more familiar silver. The 'fighting cocks' emblem is hand-painted over the squadron marking given with the kit.



Rigging now complete except for wing aerals which we omitted as they are very vulnerable to handling. Note anti-gas patch of yellow paint. The tail-to-cockpit aerial can just be seen.



Colours and Markings

The standard Dark Earth and Dark Green camouflage colours were applied over the original silver dope and bare metal surfaces. The photographs show quite a patchy and rough effect in the painting, particularly in the demarcation between green and brown. All fuselage serials were over-painted. None of the 43 Sqn machines had any roundels on the upper wings. Nearly all the aircraft in the squadron retained the 'fighting cock' badge within the arrowhead on the tail, though a couple of aircraft lacked even this. I obtained this by hand-painting a cockerel outline on to the 1 Sqn badge given on the kit decals. This was the only part of the kit decal sheet used as all the small stencils were also over-painted with camouflage. A photo of a No 1 Sqn line-up shows that the arrowhead mark was not carried by this squadron - they all had plain tails.

A yellow gas detector patch was carried on the starboard lower mainplane, outboard and aft of the outer struts and visible to the pilot. Beneath the wings the port halves were painted Night (matt black) and the starboard halves white, divided at the centreline. The 'Camouflage and Markings' book has a diagram showing the radiator painted dark earth, but close study of the photographs in the same book shows that in some aircraft, at least, the radiator may well have been black with the white/black division either below the centre line or to starboard of the radiator. All the rest of the undersides were left in silver dope. On at least one machine the outline of the underwing serial showed through the white paint on the model apply the decal, then paint white below the wings to let the number show just slightly (but not legibly). The book also states the wheel hubs to be dark earth but they may possibly still be in flight colours, as could the spinner. The paint is certainly a little gloss on the wheel hubs rather than matt. The starboard aileron is black, though it might possibly be in flight colours too. Fuselage and underwing roundels were converted to B type to eliminate the white and the pictures show that the underwing roundels, may in fact, be completely over-painted in Night on some machines, leaving just black discs. On the model I used spare 1:72 scale B type roundels which matched the correct diameters for the positions - mine came from a Microscale sheet. As there was some discrepancy in application of the colours, and no visible serials to identify individual machines, you have a certain amount of leeway, as will be apparent if you study the 'Camouflage and Markings' book photographs.

Rigging

Many modellers shy away from biplane kits because they do not like the prospect of all that rigging. Using heat-stretched sprue (we'll be featuring this technique soon on the 'Workshop' page), the terror goes out of rigging. Of course, if you prefer to use fine thread there is nothing to stop you, but the method we used is the commonly accepted 'easy' way with fine sprue. For rigging use transparent sprue. The reflection in this gives a good impression of the twin wires commonly used between interplane struts. Simply use dividers to measure off the lengths required, put a pin drop of cement at each anchoring point, and pop the wire into place. Work methodically round the wings. If the model is to be handled much (like mine) it is best to omit the aerals running from the rudder post to the little posts on the upper wings.

These aerals are not very visible from normal viewing distances and quite frankly they are bound to get carried away if you pick up the model without remembering they are there. If your model goes behind glass, then they could, of course, be added.

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Off-highway racing with 4-w-d utilities is a popular sport in the States - not with environmentalists though. This 'racing' I-4 Scout could be modelled from the ERTL kit and made the subject of an 'diorama' (International Trucks).

American Lightweights

Another look at the American trucking scene with John Reed

Trucking in the United States is not just a matter of 'big rigs' - colourful as they might be - and there is plenty of scope for even the beginner amongst the vehicles at the lighter end of the market.

The light truck - the pick-up van and lightweight utility - is almost as American an institution as Coca Cola. The early farm trucks of the 1920s and 1930s led directly to the Jeeps and Power Wagon weapons carriers of World War I, and set in motion a process that has given us today's generation of versatile lightweights.

It is an area in which - despite recent Japanese intervention - US manufacturers are pre-eminent, and one in which their customers are able to make much more rational use of transport than their European counterparts, many of whom still have to send a three-ton truck to do a one-tonner's work simply because there is no suitable light workhorse generally available. In recent years US sales of medium duty trucks have actually declined, whilst those in the light duty sector have increased by more than 20%, and although a boom

in recreational vehicle sales accounts for a significant proportion of the increase, business users still buy 66% of all ½ ton pickups, and 75% of all ¼ ton vans.

This buoyant market has prompted US Chrysler to pull out of the medium duty sector, and to re-tool for increased lightweight production, but the way ahead is far from clear, as the fuel crisis and tighter exhaust emission legislation are making it necessary for the manufacturers to pare up to 1000lbs off the unladen weight of some of their models in order to meet Federal fuel-consumption standards. There are problems, too, due to diesel engine production having failed to match the hopes of the planners - a switch from petrol to diesel for lightweights is an important part of long-term fuel saving strategy - but the signs are that the truck makers are managing to keep at least one step ahead of the legislators.

It's a situation that had led to the appearance of the first of the sub-compacts typified by Dodge's D.50 pickup, powered by a 2 litre or 2.6 litre four-cylinder petrol engine -

UK pick-ups are powered by fuel-guzzlers of between 3.7 and 5.7 litres swept volume - yet capable of carrying a 1400lbs payload. By making such vehicles available in both standard and sport forms, Chrysler hope to meet the requirements of both business and leisure users, as well as those of the considerable body of US motorists who prefer a pick-up as basic transport. Some indication of the standard of finish on these newcomers may be gained from the fact that optional 'dress-up' items for the standard model including white sidewall tyres, tinted glass, and cargo lamp are fitted to the basic sports version, which can be ordered in yellow, tan red, black or white, with a variety of highline stripe and colour combinations. GMC Truck and Coach's pick-up range includes three versions of the glamorous Caballero, a car-styles 117 inch WB pick-up which combines genuine saloon car comfort with a 335 cubic feet cargo space that can hold an 800lbs payload, but its real muscle is to be found in the more functional Wideside and Fenderside pick-ups of up to a

Big, tough and comfortable. Jeep's J10 Golden Eagle pick-up has genuine off-highway capability in the best traditions of its World War 2 ancestor. (Jeep Corp).



1979 GMC 'chopped' or 'cutaway' vans are built without side, rear or roof panels behind the front compartment for conversion to mini-motor homes or commercial vehicles with specialized bodies installed by independent firms (GMC Truck and Coach).

10,000lb gross weight, and a carrying capacity of up to 4650lbs.

Pick-up ranges from all manufacturers are fairly straightforward - Chrysler's comprises five payload classes on six different wheelbases, with two alternative pick-up 'box' styles - but the number of off-the-shelf options available give them great flexibility. Crew cabs with seating for up to six in various standards of comfort are a common sight on US roads, as are trailering kits giving towing capability for drawbar trailers of up to 11,000lbs gross weight, and fifth-wheel couplings for semi-trailers of up to 15,500lbs. Available transmission systems include automatics three and four speed manuals, and it is a simple matter for a customer to obtain a vehicle tailored

to his own specific needs. Thus in addition to the bodywork options for Dodge's D.50 shown in the accompanying illustrations there is also a choice of four wheelbases between 115in or 149in, four different engines, and two final drive ratios.

The versatility does not stop there. The D.50 in all its various forms is also available with four wheel drive as the W150 Power Wagon. The value of 4-w-d as a means of extending the capability of a light truck is only now being fully recognised in Europe, but in the US optional drives are an established feature of most pick-up ranges, and have recently enjoyed a phenomenal degree of success in the recreational vehicle. International Trucks' Scout II series is typical of

the latest generation of utilities, including as it does the 118 ins WB 4-w-d Scout Traveller hatchback and the Terra pickup, both of which can be modelled using the excellent ERTL Scout II kit that is now on sale on the UK. In its brawniest form the Terra has engine options outputting up to 163bhp, a four-speed gearbox with two ratio transfer mechanism, selective all-wheel drive, and can-like all Scouts - be fitted with a range of off-the-shelf work accessories that includes a 2000lbs capacity step-down bumper tow kit, front mounted winch, and snow plough blade. For added interior comfort there is a colour matched 'cruiser' package that includes highbacked seats, fitted nylon carpeting, and door map pockets.

GMC Rally vans have a 'hemmed' roof drip rail design in 1979 to increase corrosion protection. The overlapped or rounded gutter edge improves paint adhesion. A thicker dash mat is used on all van models to improve acoustical insulation (GMC Truck and Coach).





Above: Dodge B200 Van shows marked design similarities with current European Dodges. This is a familiar type because the B200 (or variants with the body shell) have been produced by kit makers. (Chrysler Truck and RV).



Below: International Scout II. Modellers should be able to convert the ERTL kit of this tough utility to depict it in a number of roles. This is the basic range (International Trucks).

GMC's Jimmy full-time 4-w-d utility has engines of between 4.1 and 6.6 litres available, and is a tough off-highway performer with a fibreglass rear roof section that may be removed to create an 'instant pick-up', but like the other 'majors', GM market four wheel drive versions of their regular pick-ups as well as the specialised utility. By drawing on the full range of options, the customer can buy a very formidable vehicle off-the-shelf complete with off-highway capability, a payload capacity of more than two

tons, a full range of fitments, and saloon car comfort. The robust qualities of the US utility are well demonstrated by the use of I-H Scout Terra's at the Grand Saline salt mines in Texas, where three vehicles are kept permanently underground, hauling heavy plant and equipment through sixteen miles of twisting and often steep tunnels. These underground haulers work only first gear, and after three years in service are still as reliable as ever - their predecessors were pensioned off

after fourteen years during which time they never left the workings.

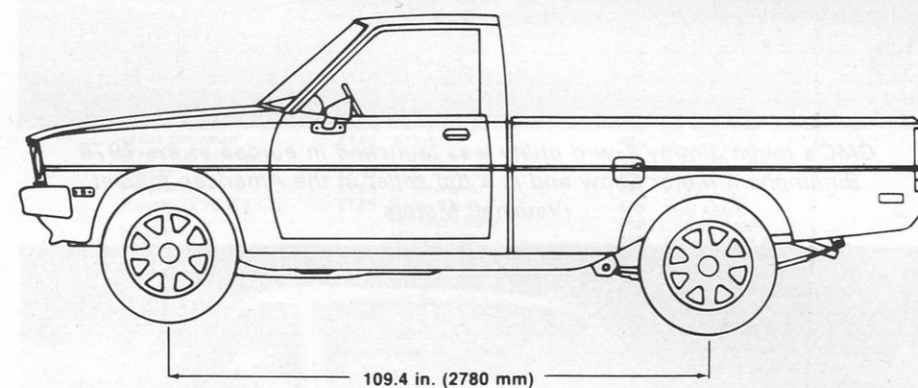
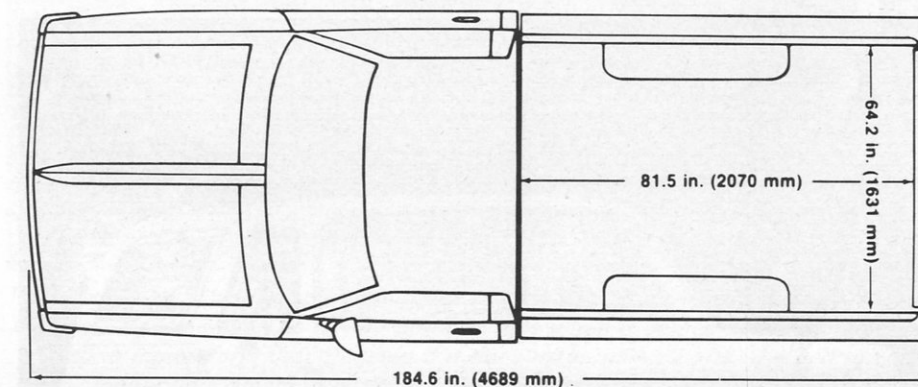
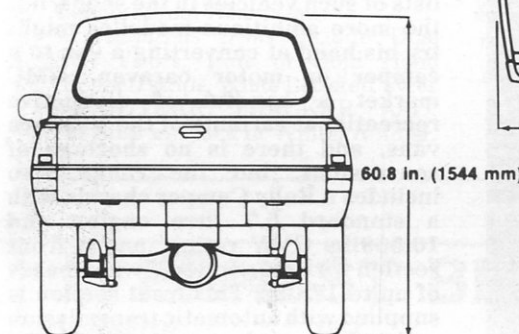
At the other end of the light vehicle spectrum, US-built vans bear a strong resemblance to their European counterparts. The day-to-day work of such vehicles is much the same in any country, and in these days of scientific design it follows that the vehicles themselves share the same basic characteristics. Thus GMC's Vandura range has a maximum GVW of 8500lbs and is outwardly similar to GM's UK-based Bedford subsidiary's vehicle, the CF, which has a maximum rating of 7700lbs. But the Detroit vehicles come in a variety of guises that reflect the great American passion for recreational motoring. It's an enthusiasm that the manufacturers have carefully nurtured, and Chrysler's decision to drop the Tradesman name for their van range emphasises the importance that they attach to the leisure use of a vehicle that was conceived as a business transport. At the moment though, the RV boom is in deep trouble with the fuel crisis calling the need for non-essential mileage into question, and throwing a shadow over the entire future of the fuel-thirsty fun-motor. No manufacturer has cut his range, but Jeep have been obliged to slow down production and there is pressure on all manufacturers to power-down to achieve greater economy. It seems that the light-weight RV of the future will follow the path indicated by Dodge's D.50, and that there will be a call for lighter motor homes rather than the top weight models on substantial front section chassis that have been gaining ground in recent years.

Just what can be done to convert a van to a luxury transport is demonstrated in the Bostrom Buccaneer conversion for the Dodge and Plymouth passenger vans. Each of the six passengers has his own control console for the AM-FM radio, Sony TV and reading lights, and the VIP transport is available with air-conditioning, and, if required, a small fridge. However RVs need not be so elaborate, and current US practice is for manufacturers to provide high-line leisure versions of most light duty vans which can seat up to twelve passengers, tow a trailer and



Dodge D-50

Dodge D50 is Chrysler's first sub-compact lightweight and is designed to satisfy the demand for a lightweight truck with a near-car fuel consumption. Note this takes Dodge into the size sector which has been well exploited in recent years by Japanese firms (Chrysler Truck and RV).



Canadian horsepower and torque values may vary from the above.

GVWR	3880 lb. (1760 kg)	Curb Weight	2480 lb. (1125 kg)
Transmissions	Manual 4-speed (2 L) Manual 5-speed (2.6 L) Torqueflite	Horsepower SAE Std. J-270	122 in. ³ - 93 " 5200 rpm (69 kW " 5200 rpm) 156 in. ³ - 105 " 5000 rpm (78 kW " 5000 rpm)
Engines	122 in. ³ (2 L) 4-cyl. 156 in. ³ (2.6 L) 4-cyl. Silent Shaft	Torque - lb-ft	122 in. ³ - 108 " 3000 rpm (146 N.m " 3000 rpm) 156 in. ³ - 139 " 2500 rpm (188 N.m " 2500 rpm)

Makers scale drawing of the Dodge D50 sub-compact lightweight.



A 'tricked-up' version of the Dodge W100 Power Wagon utility, complete with custom wheels and fancy paint-job. Despite its modern appearance this vehicle is a direct derivative of the wartime Dodge weapons carrier (Chrysler Truck and RV).



Up in Smoke ...

Heather Rawlings goes airborne in the Rothmans Pitts Specials as they start their summer season of air displays.

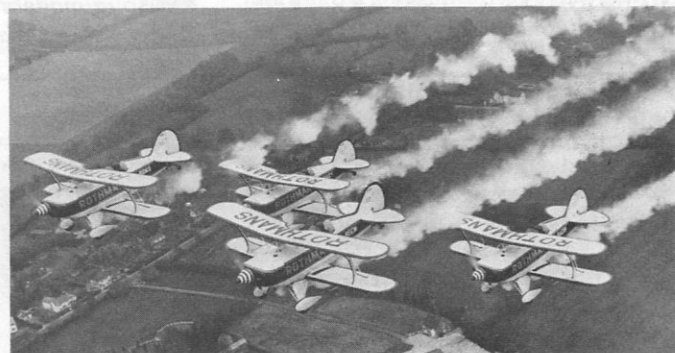
Rothmans Style

Earlier this year, I was among a small group from the aviation press who were given the opportunity of spending a day with the Rothmans Aerobatic Team. This was to include a flight in a Partenavia P68B in order to take photographs of the Rothmans Team in formation, followed by an actual flight in a Rothmans Pitts. When such an offer comes your way, you don't decline it, despite any reservations you may have about 'doing whirly things in the sky'.

It must be made clear at this stage that the aim of this article is to provide its reader with a little background information about the Rothmans Aerobatic Team. But because flying with the team was such an exhilarating experience, it cannot really go unmentioned here.

The Pitts allotted to me was G-BADW, and its pilot was Brian Lecomber. Having chatted merrily together over an agreeable lunch, I felt that I was in good hands - Brian having promised that if the flying became too rough for me and I wanted to 'chicken-out', I had only to give the thumbs-down and we would return to base pronto. Likewise, if I was happy with the way things went, I was to give the thumbs-up. Incidentally, this 'thumbs' business was the only form of communication available between pilot and passenger, the passenger being positioned in the front cockpit and having the pilot out of sight (but not out of mind) behind.

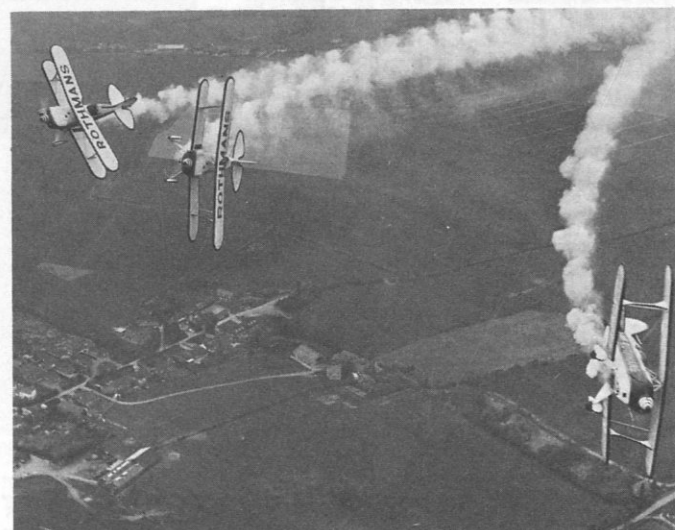
When giving an aerobatic display, the Pitts appears to all intents and purposes to be a single-seater. This is because the front cockpit is closed up with a tight fitting fairing. On this occasion, the front cockpits were opened and we sensation-seekers were allowed in them. We were tightly strapped in our seats and when the preliminary checks were over, our pilots also strapped themselves in and started up the 200 hp Lycoming engines. At this point, what with the



Top: Starting the break - the moment when real action begins is seen from the accompanying Partenavia aircraft.

Above: Smoking Rothmans. The entire team make smoke as they start their aerobatic sequence.

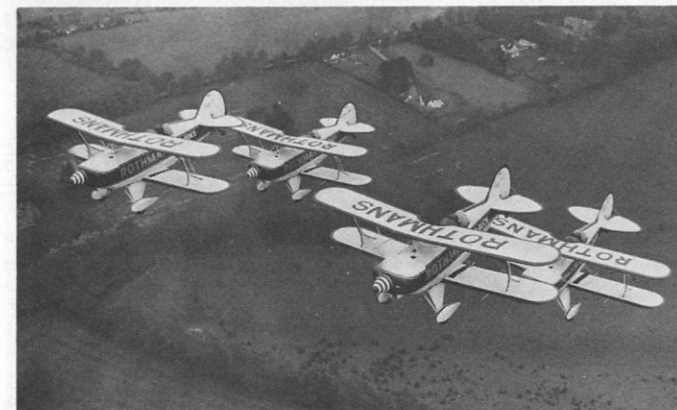
Below: The aerobatic team during a break. (Photos: Heather Rawlings).



Top: The only way to travel - airborne Heather Rawlings in the front cockpit (Photo: Peter Gilchrist).

Above: Marcus Edwards (team leader and No 1 pilot) in his Pitts S2A, G-BDKS, (Photo: Heather Rawlings).

Below: No smoking zone - the Rothmans Aerobatic Team formate for the photographers in the accompanying Partenavia (Photo: Heather Rawlings).



buzzing growl of the engine and whatnot, the adrenalin in the system started doing its stuff and pushing its way around the not-so-tired frame with gusto, paying particular attention to the area around and including the heart!

Because of the Pitts' design, owning a small tail wheel, the pilot cannot see ahead of him when the aircraft is on the ground, nor for that matter can the passenger. To overcome the obvious difficulties that this entails, the pilot progresses to the runway by means of a series of sideways weaves. This duly completed, Brian, being the box man of the team and flying behind the others, waited until the other three Pitts' had raced down the runway before opening the throttle of G-BADW and following suit.

We were up, and the team quickly pulled tightly together into a box formation. I and my fellow front-cockpitters exchanged waves and, though please don't repeat this, were even seen to pull one or two faces at one another - quite a camaraderie having formed between the four of us.

After this spell of formation flying alongside the Partenavia, which had photographers on board busily 'clicking' in our direction, the team split and we all went our separate ways. This was when the fun and games began. Brian took G-BADW (which he affectionately called 'Bad Whisky') through a Barrel Roll, and having received the thumbs-up from me proceeded to do a series of aerobatic manoeuvres varying from Loops and Stall Turns to Cuban 8s and Hesitation Rolls. I would like to add at this juncture, that not once did Brian receive a thumbs-down from the front cockpit whilst I was its occupant, though I must confess that at one point during the proceedings, whilst inverted as it happens, I did think that perhaps it has been a little unwise of me to have consumed as much lunch as I had.



After these 'whirlies in the sky', we landed and, judging by the irrepressible grins on the faces of the other three passengers of this sortie, they had enjoyed their flight as much as I had enjoyed mine.

The Pitts S2A

The Pitts is an American produced biplane of remarkably small size and weight. The wing span is only 20 feet and its overall length is approximately 19 feet. It is constructed of wood, welded steel and fabric - which accounts for its lightness. It weighs about half the weight of an average car.

The Pitts was introduced in 1966, which was a time when the accepted construction for an aerobatic plane was a sleek, all-metal monoplane. This dumpy biplane, resembling a pre-World War 2 'Biggles' type of machine, was received with a considerable amount of scepticism. However, as is now evident, the Pitts proved its capabilities and soon became a favourite among aerobatic pilots.

The Pitts S2A has two open cockpits, although most of the time the Rothmans Aerobatic Team keep their front cockpits closed over, thereby giving it the appearance of being a single-seater. It is only when they have to carry people such as myself that the team open the front cockpit. When necessary, the Rothmans Pitts' are fitted with an additional long range fuel tank which they put in the front cockpit. These additional tanks enable the aircraft to fly for 350 miles without refuelling. Without them they are limited to a 200 mile range.

The Pitts is powered by a 200 hp Lycoming engine, and has an inverted fuel and oil system and a Hartzell constant speed propeller. It has a top speed in level flight of 157 mph, and a maximum diving speed of 203 mph, a cruise speed of 135 mph and a climbing rate of nearly 1,900 feet per minute.

The Team Pilots

Marcus Edwards (Team Leader) joined the Rothmans Aerobatic Team in 1978 as No 2 pilot and took over as the Team Leader in 1979. He flew Jet Provosts, Vampires and Sea Vixens while in the Royal Navy and then was seconded to the RAF as a flying instructor, during which time he flew with the Red Pelicans Aerobatic Team, which had Jet Provosts. After that, he became a flying instructor with the Royal Jordanian Air Force.

Rod Rea (No 2), an ex-RAF man, flew Jet Provosts, Vulcans and Canberras while serving with the RAF and then 1-11s for Dan Air. As well as this, he has won sought-after awards for gliding.

John McLean (No 3) is the newest member of the Rothmans Aerobatic Team. He is also an ex-RAF man and has flown Vulcans, Shackletons and Nimrods. When he was posted to the University of London Air Squadron he specialised in aerobatic and formation flying which meant that when he left the RAF earlier this year, he could walk straight into the position of Pilot No 3 with Rothmans.

Brian Lecomber (No 4) is the only member of the team who is not from any of the forces. In his time he has been a motor racing mechanic, a builder, a forester, a journalist, a flying instructor, a sailor and has written novels about flying. He was also a stunt man for a while, doing, to my ind singularly daft stunts such as jumping off the wing of a low, slow flying Tiger Moth, minus parachute but with a crash



Above, Top: The Rothmans Aerobatic Team, from left to right, Marcus Edwards, Brian Lecomber, John McLean, Rod Rea (Photo: Courtesy Rothmans).

Above: A close-up view of the Rothmans Pitts (Photo: Heather Rawlings).

Below: The Rothmans team in action with the unusual addition of passengers in the front cockpits (Photo: Peter Gilchrist).

helmet, aiming to hit the grass in a high-speed version of a paratrooper's roll. Actually, the second time he did this particular stunt he ended up in hospital with a broken collar bone and concussion. There must be a moral or two in this story - 'Look before you leap' is one that springs instantly to mind. He obtained his Private Pilots Licence in 1969 and since has instructed at flying clubs and flown World War 1 fighters at air displays. It was in 1978 that he joined the Rothmans Aerobatic Team.

The Team's History

The Rothmans Aerobatic Team has been going for ten year. In 1970, Michael Kelly retired after 19 years in continued on page 633



New Books

Aigles et Shakos du Premier Empire, by Christian Blondieau. Argout Editions, 138 rue Montmartre, 75002 Paris, France. Can you read French? If so, read on... This book is published by a French company and, surprisingly enough, is written in French. *Uniformes*, the well-known French magazine, has now produced a book on the *Eagles and Shakos plates of the 1st Empire*. For the first time, as far as we know, nearly 150 photographs of authentic shakos plates are to be found in a single volume classified both chronologically and by branch and service. Complementary illustrations in the volume include complete shakos, czapkas as well as some contemporary engravings by Martinet. The book also includes 8 full colour pages. The text give a clear (that is if the reader understands French) account of the French Imperial Army from 1806-1814. All regiments and bodies of troops that have existed are mentioned with details of strength, organisation, etc. The book is completed by a series of tables indicating which regiments of the French Army were in every major battle or campaign during the period.

So, if you are acquainted with the French lingo, allez and buy yourself a copy. If you're not too hot at French, then there is still a lot of information to be obtained from the photographs and pictures alone.

The Sherman Tank in British Service 1942-45, by John W.R. Taylor and Chaz Bowyer (Volume One) and John Taylor and Philip J.R. Moyes (Volume Two). Ian Allen Ltd, Terminal House, Shepperton, Middlesex, TW17 8AS. UK £6.95 each.

The most widely-used of all Allied tanks in World War 2, the Sherman remains a subject of perennial interest to all students of armoured warfare. Built around interviews with surviving Sherman crew veterans, this book provides a unique record of what it was actually like to live and fight in Shermans, front line photographs eye-witness sketches and full colour pictures (as well as black and white photographs). It contains many previously unpublished examples of colour schemes and markings, and fascinating interior cutaway views for crew and stowage positions. John Sandars died during the final stages of the preparation of this book; this book is a fitting memory of his work.

Battleships of the World 1905-1970, by Siegfried Breyer. Conway Maritime Press Ltd, 2 Nelson Road, Greenwich, London SE10 9JB. UK £25.00.

Siegfried Breyer is one of Germany's best-known authorities on warship design in general, and capital ships in particular. That he is an expert on the subject is obvious after a perusal of this book. *Battleships of the World* is a complete photographic dossier covering every capital ship - both battleship and battle cruiser - built since the epoch-making *Dreadnought* of 1905. It is based on photographs selected from the enormous archives of the Library of Contemporary History at Stuttgart, and documents all aspects of the warships it depicts, including building, launch, close-up, portrait and action shots. A number of significant battle-charts and ship plans have also been included. Many of the photographs in the book will naturally be unfamiliar to the English-speaking world, and the book's large format allows the best and most dramatic use of the illustrations.

£25.00 is a lot of money, but *Battleships of the World* is a lot of book - and it will certainly enthral all historians, enthusiasts, modellers and general readers alike.

An Illustrated Guide to Modern Tanks, An Illustrated Guide to Modern Fighters and Attack Aircraft, and An Illustrated Guide to Modern Warships. Salamander Books Ltd, 27 Old Gloucester Street, London WC1N 3AF. £2.95 each.

These three books begin a new series. Each book contains 160 pages, crammed full of all colour photos and an average text of 40,000 words. The books really are 'beautiful' in that they are an ideal size for the hand, they have a glossy finish throughout and the information that they contain is as near definitive as possible. They are, in fact, three of the best books seen for a long while and we hope that Ray Bonds and his team at Salamander continue to produce such high standard books at such highly competitive prices. Truly excellent books.

Pictorial History of the RAF, Volume One 1918-1939 and Volume Two 1939-1945, by John W.R. Taylor and Chaz Bowyer (Volume One) and John Taylor and Philip J.R. Moyes (Volume Two). Ian Allen Ltd, Terminal House, Shepperton, Middlesex, TW17 8AS. UK £6.95 each.

Originally published to mark the 50th anniversary of the formation of the Royal Air Force, on 1 April 1918, this three-volume work has again been published, but now in a different format and with different photographs. We have the first two volumes of the three and find both fascinating. There are over 450 photographs between the two which should prove helpful to modellers, but it must be pointed out that these books were published as a tribute to the RAF, telling of the tremendous contribution that the RAF made to both World Wars and after, and as such the text is not for the modeller although it is of great general interest.

All the Blue Bonnets, by Robert Woollacombe. Arms and Armour Press, 2-6 Hampstead High Street, London NW6. £9.95. Released earlier in May, this new history of the King's Own Scottish Borderers will be of particular interest to those who served with the Regiment and to those who are interested in Scottish regiments in general. The greatest disappointment with the book is the ultra brief way in which the regiment's involvement with the two world wars is dealt with, on the basis that this is already sufficiently well covered by other regimental histories. Mr Woollacombe's style is fairly easy to read and the section of the book that deals with the founding years and the regiment's part in the colonial period in the Sudan and India are both well written. The remainder of the book is not as good, and as is the case in so many regimental histories, the actions of individual regiments are not well portrayed in the light of the overall historical backcloth. This is particularly so in connection with the Far East in the 50s and 60s. Perhaps one of the most interesting pieces of information for the modeller is the description of men of the KOSBs bedecked with roses in the camouflage netting of their helmets in Normandy, 1944, going into action on the anniversary of the Battle of Minden - this would make an unusual and interesting mini-diorama.

Panzerkampfwagen III, by Brian Perrett. Osprey Publications, 12 - 14 Long Acre, London WC2E 9LP. £2.95.

The workhorse of the Panzer Division throughout the war, was produced in huge numbers. The highly detailed text is based on original German documentation and British intelligence evaluation of captured tanks, illustrated with a selection of photographs including clear views of all main interior stations. Mike Chappell's colour paintings of the interior details are some of the finest of their kind ever published; and an artist new to this series, David E. Smith, imparts a lifelike 'feel' in his studies of colour schemes and markings. Very helpful for the military modeller.

Wrecks and Relics, by Ken Ellis. Merseyside Society, Room 14, Hanger No 2, Liverpool Airport, Liverpool, L24 8QE. £3.95 plus 50p p+p.

Now firmly established as a biennial publication, this book does all the hard work for the air enthusiast by compiling data on locations and origins of aircraft remains the length of Britain. Done county by county it is a mine of information and you may well find interesting aircraft remains almost on your door step when you check this book - just as we did.

Further afield there is a big hunk of a Halifax bomber on the Isle of Lewis and this book records it and illustrates it. So it goes on, with a lot of very interesting machinery included, whether it be intact or in pieces. Keep it in the car if you go touring as you are bound to find relics you didn't know existed.

New Models



colourful though nothing like as appealing as the Jeep. This a model where cement is definitely needed to stop the cab parting company from the body. On our sample they constantly sprang apart until we cemented them. All in all, a very neat, clean model, even though we found the Jeep the most enjoyable of the two. *C.E.*



Revell: Jeep Golden Hawk, 1:25 scale, UK £2.99.

Revell continue with a quite prolific output of snap-together kits of road vehicles, and this fine Jeep replica is definitely the best yet, perhaps because of the character of the subject. Don't be put off by the 'junior' implication of the 'no-cement, just snap-together' mode of assembly. This is an excellent scale model in its own right and the snap-together construction is, if anything, an asset since you can get quite a complex model made and painted in a single evening. All parts are pre-coloured, but it helps to paint in a few details. Yes, the snap-together feature works well, but if you want a really permanent model, cement the joins as well as bits do tend to fall off otherwise. One really nice feature of the model is the body, moulded in a metallic golden brown which matches a familiar colour option of the real vehicle. The Jeep Golden Hawk is the commercial version of the military Jeep, and if you were looking for a big scale US Army Jeep, this one would obviously convert. The kit comes in cross-country trim, however complete with roll-over cage and a front winch. The hood opens to reveal a nicely detailed engine. This is a kit we both liked and commend. *C.E.*

Revell: Big 6 Wheeler 1:25 scale, UK £2.99.

Released with the Jeep is a contrasting snap-together subject, a customised pick-up loaded with options. Revell don't specify the basic vehicle but we believe it to be the current version of the largest Chevy pick-up. As supplied by Revell, it has extras in the form of heavy duty axles and wide tyres, twin rear wheels, a sleeper or personnel cab, heavy duty fenders, a Cadillac style front grille, turbo 350 diesel motor, chromed side exhausts and much else. With bright stripes and red body it makes up into a typical recreational version of a commercial pick-up, once a 'custom' fan has got hold of it - very



Heller: Renault 4ch and Peugeot 203, 1:43 Scales, UK £1.60 each. Here are further new cars from Heller's 1:43 scale series. The Renault 4ch and the Peugeot 203. Both are of classic French saloon design of the early post-war period.

These two models were a joy to

build, the construction being very basic and the fit of the parts excellent. The instruction sheets were of the new Heller pictorial type with symbols for what to do, and no words. There was no order given for assembly: we just had to look at the pictures and put things in the right place - which required only a little common sense. The moulded detail is of high quality with only minimal cleaning to be done. There is one strange detail component on the Peugeot, which is the fuel cap. In 1:43 scale the fuel cap becomes very small indeed. The windows for both cars were fiddly and great care was needed to avoid the dreaded smudges of cement.

The small scale of these cars makes them ideal for a street scene diorama of reasonable size, using others from the Heller range. If the other cars in this range are of an equally high standard as these two, then making such a diorama would indeed be a pleasurable experience. *C.B.F.*

Heller: SNCASE Mistral, 1:72 scale, UK 95p.

More joy from Heller! Not content with the recent release of a Vampire with RAF and French markings, the company have done the obvious thing and brought out a slight variation to depict the French-built and designed derivative - a sort of 'Super' Vamp comprising the basic airframe with a Rolls-Royce Nene engine replacing the Goblin unit. This necessitated a fatter fuselage which in turn led to a longer, stronger, undergear. An ejector seat was fitted also, not found in the Vampire. Heller have featured all these changes in this delightful kit which goes together with the same ease as the Vampire. Heller even remind you to weight the nose before fuselage assembly. Decals and colour schemes are supplied for a silver machine of 6th EC in 1952, or an interesting overall black aircraft of Aeronavale, 57 Squadron, which we will be using when our model is finished. *C.E.*

Heller: Renault Alpine, 1:43 scale, UK £1.60.

If you collect 1:43 scale die-casts, then this ever-growing Heller range is a nice help towards supplementing your collection even though they are plastic kits. The sharp moulding makes this particular sporty Renault a read stand-out, and rather neater probably than a die-cast equivalent. Construction is really very simple, basically just chassis pan, interior, wheels, and body all as sub-assemblies. The interior needs painting but the body could be left in the pleasing orange shade as moulded - you are not likely to get so nice a finish with paint. French licence plates are supplied, and plated wheel hubs are supplied on a separate sprue. The tyres are moulded in orange and obviously need painting before assembly is started. In short, a very good little kit for the model car collector. *C.E.*

Matchbox: HMS 'Kelly', 1:700 scale, UK 60p.

The most surprising thing about this model is that it has taken all these years before a kit maker has actually reproduced it in miniature. HMS *Kelly* was commanded by Lord Louis

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Mountbatten in the 1939-41 period being sunk off Crete after a most distinguished record of war activity. In slightly fictionalised form the story of *Kelly* was told in Noel Coward's great 1943 film *In Which We Serve*. Matchbox have done justice to the famous vessel with very fine moulding, free of flash and even including the minute wood grating on the bridge deck and the strengthened plating on the foc'sle. *Kelly* was a flotilla leader with lengthened deckhouse; Matchbox include an optional shorter deckhouse so that *HMS Kipling* or other ships of the flotilla can be made instead, a very nice refinement.

If you collect 1:700 scale warship models, this one is a 'must'. C.E.

Matchbox: HMS 'Duke Of York', 1:700 scale, UK £1.70.

Tamiya made a 1:700 scale 'King George V' class battleship kit a few years ago. The Matchbox model duplicates the subject but is a little cheaper and also a little simpler. It specifically depicts *Duke of York* in 1941 and has details accordingly with no further options. However, all the class could be made from this basic kit by a little simple conversion work. Even *Duke of York* would need detail changes if you wished to depict her in the later war or post-war periods. The 9141 camouflage scheme is shown on the box, appropriate for the 'as-new' condition modelled. For, say, 1945, you would need to omit the aircraft and catapult and extend the emergency conning position on the after funnel, aside from changing the colour scheme. The 'Ensign' book on the class would be a useful reference aid while making the model. This is a very attractive kit. C.E.

Matchbox: KMS 'Bismarck', 1:700 scale, UK £1.70.

Everybody makes the *Bismarck* and clearly Matchbox aren't going to be left out of the act! Again, this duplicates a Tamiya kit in the same scale, but again this one is cheaper and rather simpler. It is a good kit, and the elusive shape of the gun houses and turrets is particularly well captured. We note that the German motor boats carried are accurately done, too, with the correct cabin shape. As far as we can see this is a very accurate representation of the original and ought to be popular. A deck recognition sign and a battle ensign are included with the decal sheet. C.E.

Matchbox: M7 Priest, 1:76 scale, UK 72p.

The very successful M4 Sherman tank was modified to fulfill a variety of military roles, basically because the hull, the suspension and of course the engines were so very reliable and relatively simple to service. The version reproduced here, the M7 Priest was one of the most important self-propelled artillery weapons produced by the Americans during the Second World War. It carried a 105mm Howitzer that was capable of firing its round up to 12,000 yards. The vehicle was given the nickname Priest because of the high pulpit-like mounting for the .50 Browning machine gun. Because of the



function of the vehicle, the Priest had a full crew of seven men, which was composed of the commander, the driver and a gun crew of five.

The recent Matchbox model which consists of 115 individual mouldings, is a useful addition to the current range of 1:76 scale vehicles and will provide wargamers who battle in this scale with a useful addition to their armies for conflicts between 1942 and the early 1960s.

The model we built was rather a disappointment, as several problems were encountered that have not been found on other Matchbox kits. The first problems were in the very first stage of construction in the gun assembly. The instruction sheet shows that part 3, the gun recoil channel, with a broad moulding at the end of the part - this is not so on the actual piece. The small gun shield, parts 18, 19 and 22 are not easy to fit together, but with trial, error and patience a reasonable fit can be achieved.

The second stage, the construction of the hull, includes the assembly of the 'pulpit' from parts 34, 35 and 56. The front of the hull, part 12 should be added at this stage, but it is a good idea to leave it off until much later when the upper hull front is added. The reason for this is that on our model, despite meticulously following the instruction sheet, there was a 1mm gap between the two hull front parts. Following this advice may prevent the same problem happening for you.

Stage 3 sees the hull internal detail added. The floor has to be set just below the level of two small mouldings, which are in turn location grooves for the 105mm howitzer recoil shock absorbers. Other than this there are no other locational references for the floor. The rear engine wall fits into a location groove in the floor and butts up against the engine but yet again on our sample there was a gap of .5mm. However, Stage 4 was completed without problems!

The final stage includes the addition of the rear portion of the track guards (31 and 32) and to get this right refer to the box art. There was also hair line gaps between the stowage bins and the rear engine cover. Finally, the headlights are fixed too firmly to the sprue and despite being very careful in removing them, both lower portions of the lights were left behind on the sprue, so use a razor saw to cut them off of the sprue and then trim the parts up with a sharp knife. To finish the model, decals for a British and an American version are included in the kit. The model shown here is finished in American colours, and the model is painted according to the kit instructions, with Humbrol Olive Drab, HM3, being used overall with appropriate weathering.

So, although a considerable amount of Milliput was used to fill the gaps in our model the end result is another useful addition to the 1:76 range; the most important point about this kit is that the tracks are made from a form of 'polythene' which can be glued to the wheels with polystyrene cement so that the normal sag on tank tracks can at last be easily achieved. A.L.

Matchbox: Monty's Caravan Daimler Scout Car, 1:76 scale, UK £1.25.

After the Priest, the new Monty's Caravan Daimler Scout Car is a much better quality kit. There are the two vehicles, figures, field accessories and a two part base board.

When General Montgomery took over command of the 8th Army in 1942 he inherited several caravans for his own personal use as command vehicles. The Leyland Retriever mounting an Italian built caravan which remained with 'Monty' for the rest of the war, was originally built for General Annabale Bergonzeli, and was captured by a flying column of the 7th Armoured Division at Beda Fomm, south of Benghazi in 1941. It was then taken to HQ Workshop ordnance depot in Egypt where it was removed from its original Lancia 3RO chassis and remounted on a Leyland Retriever chassis. The interior of the caravan was split into two compartments, the forward one containing washroom facilities, whilst the rear had lockers, collapsible table and a bed settee. The vehicle itself was not small, with a maximum length of merely 23 feet and a width of 10 feet six inches. Today, Monty's caravan is to be found on display at The Imperial War Museum in London.

The model when completed is really quite splendid with a lot of detail. The basic chassis also lends itself readily for a number of conversions. Assembly is quite straightforward, but we would like to comment again here about the way in which Matchbox kits contain over-secure components. To a certain extent, we all like to find all the individual components of plastic kits still on the sprue, but Lesney do tend to over-do this, and even with great care and experience, it is still possible to break components whilst removing them from the sprue. On the Caravan, parts that illustrate this point include the suspension and the gear stick and steering column. When fixing the suspension to the chassis, part 87 needs to be fitted flat. The driver's cab has a few peculiarities, namely a double location point for the steering column on the floor and the cab front and a mis-numbered part on the instruction sheet - the gear stick is numbered 55 on the sprue and 56 on the instruction sheet. Also, the cab sides fit inside the cab floor and back, not flush to it.

The caravan body goes together very well and at the same time lends itself to internal detailing, particularly if the modeller makes the roof detachable in the finished model. Fixing the body to the chassis is easy, but watch out for the tow bar (part 96) which has to be filed down to fit. Stage 7 in the construction is the final phase, but there are some mistakes in the numbering. Parts 90 and 104 are not shown on the diagram, and in fact 104 is already in place, and

the rear canopy for the caravan is numbered 48 on the instructions, and 98 on the sprue.

And so to the companion kit, the Daimler Mk II Scout Car. For such a small model, Lesney have done very well to get 45 individual and interesting mouldings for the model. The parts all go together well, but there is the same problem as there is with the lorry, and that is the misnumbering of parts between the sprue and the instruction sheet. The first part of the Scout Car includes a part as correctly numbered on both the sprue and the diagram as part 82, but it is shown as 94 in the instruction sequence; the rear mudguards are also numbered back to front, with part 19 really being part 20 and vice-versa. The only construction point to watch for is the vehicle sides which fit both *on* and *flush* with the vehicle floor. The Daimler's roof can also be put in the open or closed position.



finally the display base is one of the best yet from Lesney. It consists of two parts, and moulded into these are details of tram lines, gutter, drain, pavement and cobbled road, as well as a broken statue. On to this can be stood the two vehicles, complete with three figures, map tables and barriers - for once there is room on a Lesney base to

Up in smoke.... from page 628

the RAF. It was his intention to form his own aerobatic team using single-engined propeller aeroplanes. He began looking for suitable machines and financial backing. At the same time, Rothmans of Pall Mall began seeking something entirely different to pep-up their sponsorship programme. Needless to say, both parties met and within three months the team made its first public appearance in May 1970 at Blackbushe, Hampshire, using four Belgian Stampses which had been completely restored by Rollason Aircraft of Croydon.

With Kelly as lead pilot, ex-RAF men as his colleagues, and with the distinctive blue, white and gold livery; these four Stampses were an immediate success and that summer the team displayed at more than 40 British air shows.

In 1971, the team was given an additional boost when Michael Kelly became the British Aerobatic Champion for that year.

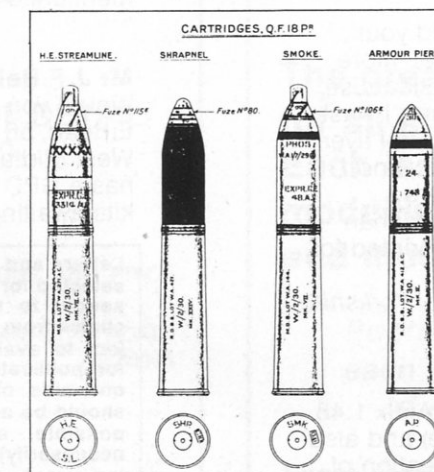
In 1972, it was decided that the team should convert to the Pitts S2A because, faithful as the Stampe was, it lacked speed and versatility compared to the Pitts. Five Pitts S2As were bought and the team was then able to introduce even more exciting manoeuvres into the routine. Manoeuvres that armed forces jet teams, such as the Red Arrows, could not even contemplate were able to be carried out thanks to the size and construction of the Pitts S2A.

The Rothmans Aerobatic Team became so much in demand from all quarters of the world during the

display the models. To conclude, the Monty's caravan kit is well worth the money. A.L.

C.E. - Chris Ellis.
C.B.F. - Brendan Fogarty.
A.L. - Tony Little.

The Workhorse, from page 597



Taken from the 1931 Service Manual, this drawing shows the type of marking used on the various types of 18 pdr projectile. The manual lists a total of nine marks of shrapnel, four of HE, six of Smoke, and one of AP.

Type	HE	Shrapnel	AP
Weight of projectile (kg)	8.39	8.39	8.39
Length of projectile (mm)	243.6 249.8 stream-lined)	250.6	268.4
Length of round (mm)	833.1	807.5	805.9
Muzzle velocity (m/s)	495		
Streamlined	495		
Normal (FC)	492	492	492

Armour penetration - AP
40 mm of steel plate at 30° at 585 metres.

Armour colour schemes
HE Streamline
Yellow body with green band. Red crosses on ogive. Black lettering. Brass fuze with grey or black cap.

Shrapnel
Black body with two red bands on ogive. Red lettering. All brass fuze.

AP
Yellow body with red stripe and two white stripes on ogive. Green tip. Black lettering. No fuze.

Smoke
Green body with red stripe on ogive. Black lettering. Fuze brass with grey or black cap.

All cartridge cases brass with black markings.

course of the following years, that at the end of 1979, Rothmans announced the formation of a second team to be run on exactly the same lines as the first. This means that British audiences do not have to forego Rothmans displays because the team is wanted abroad, and vice versa.

Although the pilots have changed, the Rothmans Aerobatic Team have been thrilling their spectators with a steadily high standard of aerobatics for a decade now and we hope that the next decade is as successful as the last.

Editors Notebook, from page 591

Hawker Fury feature this month which coincides with the release of the new Airfix Fury in 1:48 scale. But we'll be going in for lots of practical conversion and modelling articles too, like the 'stretched' Hercules this issue. Another new feature is 'Workshop' starting here and now which will give each month the 'how to' gen for all the basic modelling techniques. Next month, look for a detailed coverage of the good old hurricane, just the subject for the 40th anniversary of the Battle of Britain.

One last word - essentially magazines are for their readers. We've always had a big mail bag from *Airfix Magazine* readers and we always like to hear from you, even if we can't always reply to individuals. We also like to hear hints and tips from readers, and if you have any good conversions or model projects let us know about them. Even if you can't write an article yourself we can arrange pictures and turn your rough notes into articles. We pay for editorial contributions which are published.

Hope you like the our new look. Lot's more in the way of good things lined up for future issues. Join us for the exciting ride into the 1980s.

Chris Ellis

Glad to be of Help!

In December I purchased your magazine *Airfix Magazine*, more out of curiosity than practical use, or so I thought. How wrong I was! You see, I am a radio control flyer interested in scale aircraft, and I found your magazine more informative on scale topics than some of the magazine's printed for radio flyers!

M. Westwood, Brighouse, Yorkshire.

Hurricane Howlers

In the review of the new Airfix 1:48 Hurricane kit (June issue) and also in the News from Airfix section of the March issue, No 85 Squadron is stated as belonging to the Advanced Air Striking Force. In fact, 85 squadron (along with 87) was part of the Air Component BEF. The AASF Fighter Squadrons being of course Nos 1 and 73.

G. Dunne, Hamilton, Lanarkshire.

Matator not Mandator

Sorry but I'm afraid you are wrong in your reply to Gwyn Evans, see Wheels of the RAF page 481 of the May issue of *Airfix Magazine*. The vehicle is *not* a Matador but a Mandator. Official title given by FVRDE at their 1962 exhibition being Truck 10-ton Missile Transporter 4 x 2 AEC where one of these lorries appeared as Exhibit No 52. I am enclosing a photograph, taken by B.T.White, showing the complete vehicle and its missile, a Blue Steel rocket.

Mike Conniford,
Caversham, Berkshire.

Air display Diary 1980

There have been a couple of changes to the list that was published on page 482 of the May issue of *Airfix Magazine*. Both of these occur in August, and involve the USAF Open Day at RAF Upper Heyford, which has been cancelled, and the Plymouth Navy Days. These have now been put back by one week, and will be presented over the weekend of 30 and 31 of August.

P.R. Gulver, Pulborough, Sussex.

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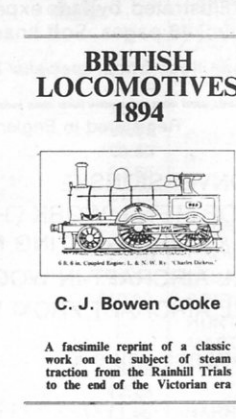
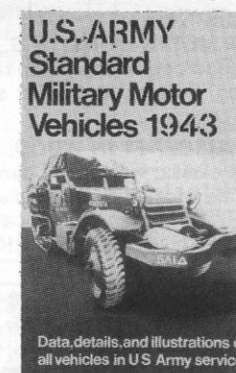
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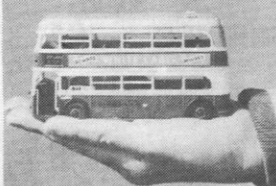
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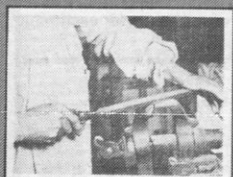
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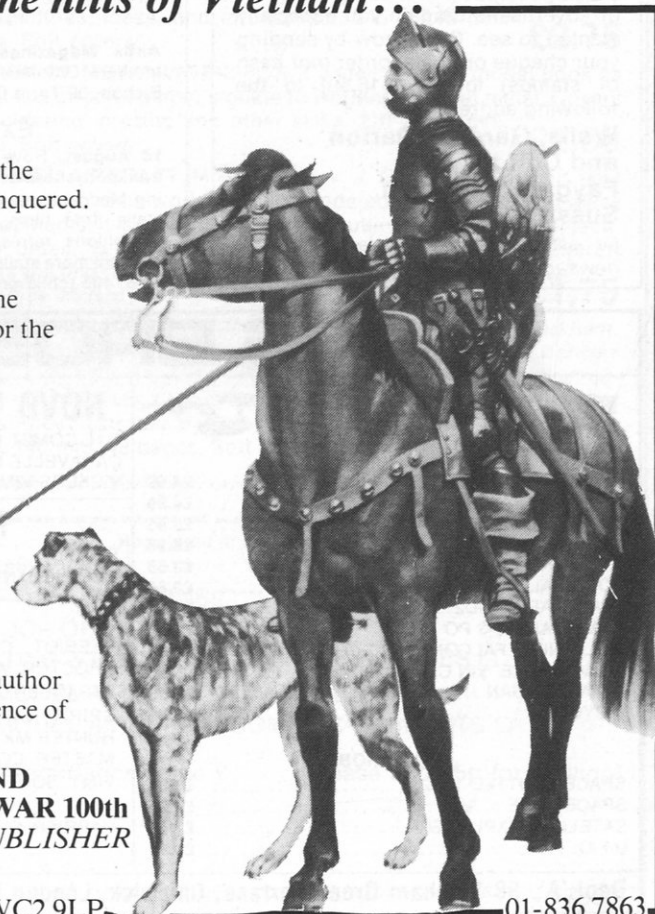
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These three exciting new models from Revell have a lot in common. Powerful lines. Impact. Appeal. Plus the attention-to-detail which goes into all Revell kits.

Take the Porsche 928 Rally. It has real rubber Goodyear tyres. Two-position headlights and an opening bonnet. Underneath that bonnet the engine includes simulated fuel and electronic lines.

Then there's the Kawasaki Tourer. A big, muscular motorbike with custom dual seat, mag alloy wheels and 1015cc power unit.

Lastly, the Turbo-diesel Big 6 Wheeler, with features like roof-mounted airhorns and highly detailed 350 Turbo engine. It's moulded in two colours, and can be made with or without cement.

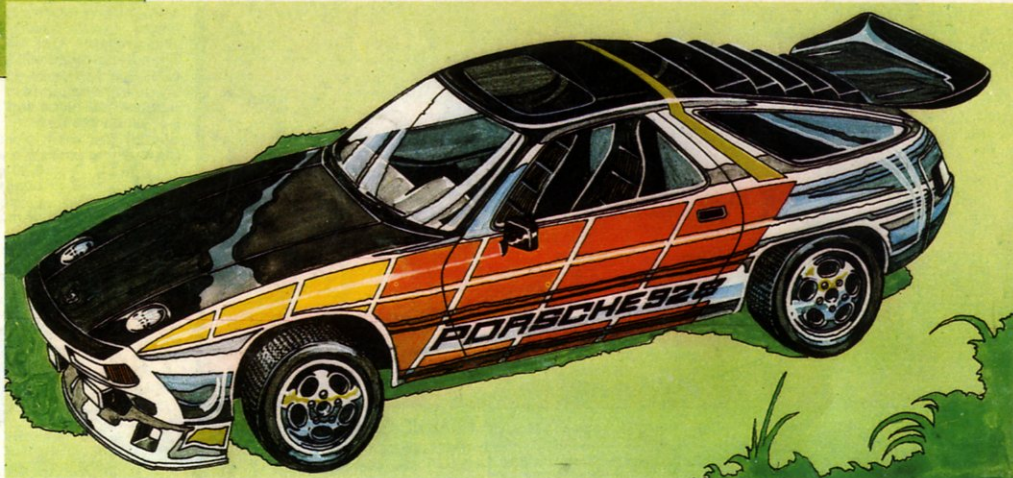
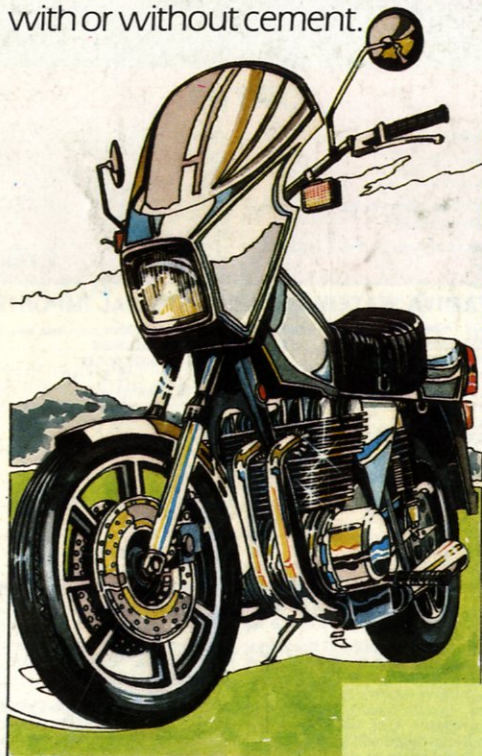
Whichever model you choose - the sleek Porsche, brash Big 6 or beefy Kawasaki - you'll find they're really impressive-looking kits.

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